The Night Sky

Astronomy Club of Akron
Akron, OH USA

HTTP://WWW.ACAOH.ORG

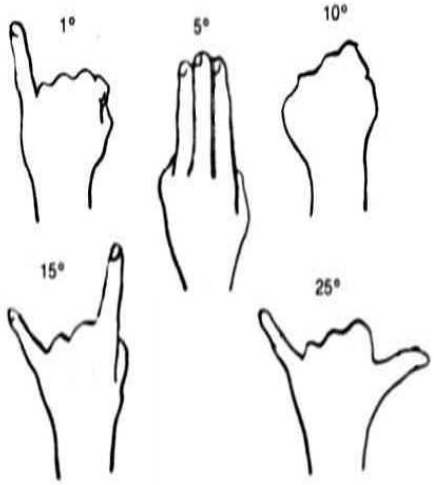
Handy Measurements

By Jeff Hudson

One of the difficulties I have is determining how far objects are from certain reference points in the sky. For instance I can read that Cassiopeia lies about 30 degrees from Polaris. But how can I figure out what thirty degrees is?

There is a simple rule for getting near the right distance between objects. Extend your arm away from your body towards the object, in this case Polaris. Now hold you hand out with your thumb and pinky extended and have thumb touch Polaris. Rotate your hand around Polaris until the 'W' of Cassiopeia comes into view.

That sounds more difficult than it is, but I think you get my point. I have included a chart that shows the different degrees of measurements from using your hand.



Upcoming Events

July 26
The Autumn Constellations

Tour of Taurus, Aries, Pisces, Aquarius and Sagittarius and many others.

July 26
CAA OTAA Convention

August 7,8,9
A.L.P.O. convention in Boardman Ohio.

August 9
Solar & Lunar Delights

6:00 PM Solar:
7:30 PM Hot Dogs: Culinary feast.
9:00 PM Lunar:

August 16
Astronomy on the river canoe trip

August 28
The Planet Mars

INSIDE

This month we feature articles by Glenn Cameron, Ray Paul, John Crilly, Jeff Hudson and Jay Svitko. Also more classifieds and Astronomy on the Road.

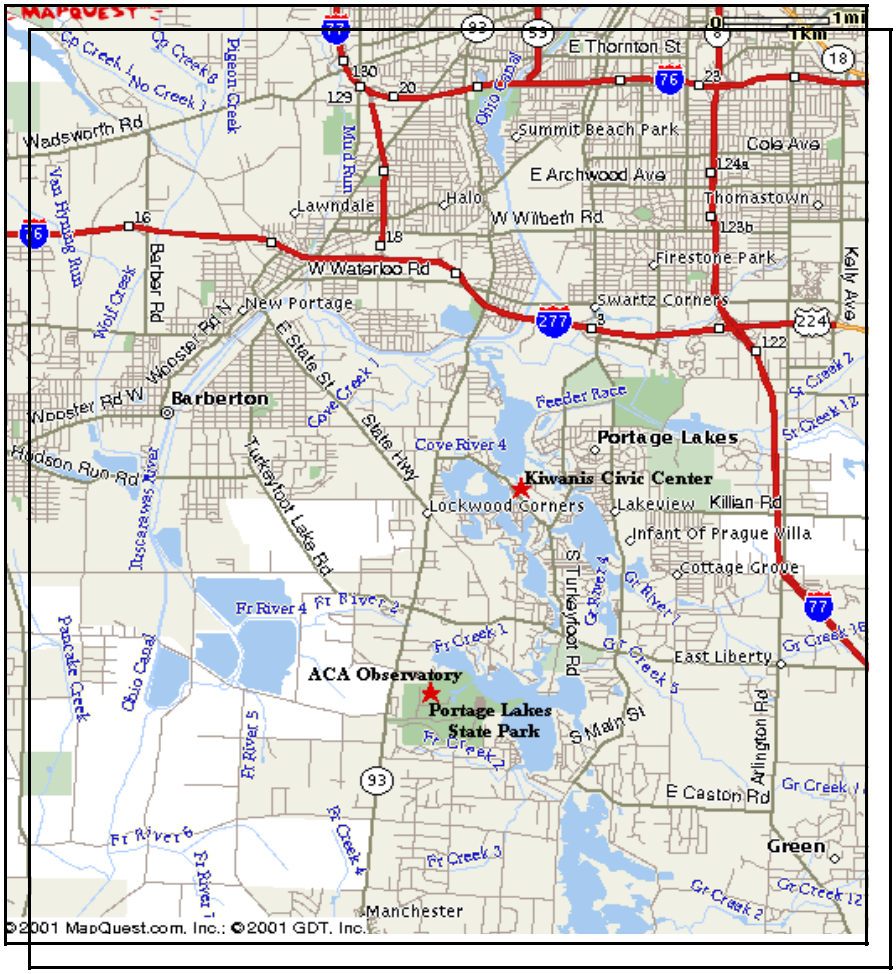
My Time Using The Hubble Space Telescope

By Glenn R. Cameron

All I can say is I'm glad I wasn't using the Hubble Space Telescope last Saturday night. It would have been an awful waste of that very special scientific resource.

I carefully prepared for the evening. Using a combination of software, Starry Night Professional and Sky Charts, I printed charts showing me the star fields surrounding Uranus, Neptune, and Pluto. In the case of Pluto, I had utilized the USNO-A star catalog (a six gigabyte download that took me all week to acquire) with Sky Charts and produced a 22 arc minute wide by 16 arc minute tall plot of stars down to magnitude 16 with Pluto in the center. This was superimposed on a Digital Sky Survey image of the same field and printed as a negative with black stars and a white sky, saving me about ten dollars worth of black ink. It was beautiful. Okay, I knew the moon was full that night and that even though it was about 30 degrees away from Pluto, I didn't have much hope that I would see it. On the other hand, Pluto is only about a magnitude 13 while the video camera with the focal reducer can pretty easily glimpse magnitude 15 or even 16 on a good night. I had high hopes that

(Continued on page 4)



Since 1949, the primary objective of the Astronomy Club of Akron is to promote the interest, education and advancement of its members in astronomy. The ACA maintains its own observing site and club telescope at Portage Lakes State Park. Many club members donate their time and services to local schools, church groups, and other organizations as well as to the general public.

Membership is open to anyone with an interest in astronomy. No equipment is necessary and no knowledge is needed. There is no age limit!

The ACA is a 501c3 non-profit organization.

The Night Sky	
Editor / Layout	Jeff Hudson
Contributors	Ray Paul
	Glenn Cameron
	John Crilly
	Rich Ruggles
	Jay Svitko
	Jeff Hudson

The Night Sky is publish monthly and contains information on upcoming meetings, observing sessions, and articles by members.

Submission Deadline
August 13, 2003

Astronomy Club of Akron	
President	Gregg Crenshaw
Vice-President	Jay Svitko
Treasurer	Gary Smith
Secretary	Lynn Laux
Observatory Director	Ray Pau
Statutory Agent	Rich Ruggles
Trustee	Glenn Cameron
Trustee	Dave Jessie
OTAA Representative	Lou Poda

Welcome New Members:

Sharon Davis

Nick Mihiylov

Next Club Meeting

The ACA does not hold regular monthly meetings during the summer, the next scheduled meeting is on Friday, September 21, 2003. Contact Jay Svitko or Jeff Hudson with leads on a speaker or ideas for a program. We encourage club members to give presentations, so don't be shy.

Observatory Report

By Ray Paul

As we have discussed in several club meetings, the electronics board in Emerick's 8" Celestron Ultima is currently inoperable. With help from Dave Jessie and some of his internet buddies, we have located Tangent Instruments who manufactured drive controls for later models of this scope (the original Tuthill Co is no longer in business.) I've ordered a replacement drive assembly from Tangent and expect it soon. The one big advantage here being that it has a low power consumption and uses a standard 9 volt battery versus the original lead acid cells.

Ernie Mayer's C11 is in good health. Many thanks to Lee Mayer for her generous donation. Ted Faix and I have star tested the optics and collimation which are in good shape. I recently purchased the PC165C color CCD camera from Super Circuits which we hope to use with the C11 on Mars in August.

The observatory has a couple of issues which are going to need attention next spring. The siding on the south wall of the roof has deteriorated over the years and needs replacement. The west edge of the roof has also suffered some water damage. From inside you can see the dark stain running along most of the length of that edge. This will require partially stripping the roof to replace the affected plywood sub roof. The east slope of the roof has also developed a couple of small leaks which I believe are due to the fact that many of the roofing nails have worked loose over the years. These will all have to be replaced with screwed fasteners. One piece of siding on the west facing screen wall of the privy also needs to be replaced and lastly, both buildings will need a fresh coat of stain.

Storage of club scopes at the observatory has become a real problem. The club now has nine additional telescopes. Plans to build a small storage building a few years ago were shelved at that time, partly because there was some resistance by park management. I'll test the waters with the park, and look at our options for either building or purchasing a suitable building and make some recommendations later. Also, anyone interested in borrowing a scope please contact me for details.

I read with interest John Crilly's "Missing Committees" article last month. Please do not misconstrue my comments here as a rebuttal of John's article as I certainly agree that a planning committee for the observatory is a great, if not necessary, idea. I would, however, like to comment on what I feel are few misconceptions therein.

To put our annual operating budget in perspective, with an average of about 75 – 80 members at $20 each and including a few dollars in sales and donations, our yearly income amounts to roughly $2000 at best. The insurance premium for the observatory, the cost of printing and mailing the newsletter, and some miscellaneous expenses come within several hundred dollars of wiping out that income each year. It is immediately obvious that any major expenditure for upgrading the club scope will require a concerted effort to raise funds in some way.

Questions regarding the operation of the scope for public viewing involve several different issues. Firstly, the drive itself does an excellent job. Left undisturbed, it will track an object accurately almost indefinitely. The mount, however, does lend itself to an occasional bump. During public viewing sessions, it's been my experience that realignment of the scope once in a while is really a non- issue. As most of you probably know, the ladder used for observing completely bottoms out as soon as any weight is applied to a step. In all of the years of use, we have not had a single mishap in its use in my memory.

Finally, the scope's optics are just about as good as it gets. The objective mirror was made by Cave Optics, one of the finest mirror grinders in the business. It would seem a shame to replace it with a smaller or lesser quality optical assembly. Rather, I think, we should investigate replacing the mount with a modern assembly whether it's "go to" or not.

I would like to see the C11 used with a real time ccd imaging sys-

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Video Astronomy

(Continued from page 1)

I would finally be able to confirm Pluto on my monitor. I'm very sure that I have seen Pluto twice before with the video camera but have been unable to confirm it because I hadn't had a so carefully prepared chart before nor had I the ability to record the view to a camcorder to take home and compare after the fact. Tonight, I had both. Or so I thought. Read on.

When I got to the observatory at about 12:30 AM, so it was actually Sunday morning, I chatted first with some fellow stargazers. On hand were Jeff Hudson and Rich Ruggles and a couple of curious "civilians." I've gotten good at setting up my telescope, whether in broad daylight or the dead of night with the feeble assistance of my trusty red filtered flashlight. After the physical assembly of my system I remembered everything, almost. For example, I remembered collimating the optics so that I see nice pinpoint stars, calibrating the goto system's encoders, training the drive motors, setting the Cord Wrap feature to ON to avoid wrapping my cords around the telescope base, setting the High Precision feature to ON to ensure that my gotos are in the field of view of the dinky CCD chip in my video camera, and setting the Max Elevation feature to 62 degrees to prevent me from accidentally slewing to an object that is high enough in altitude to scrape the video camera off the back of my telescope. All set!

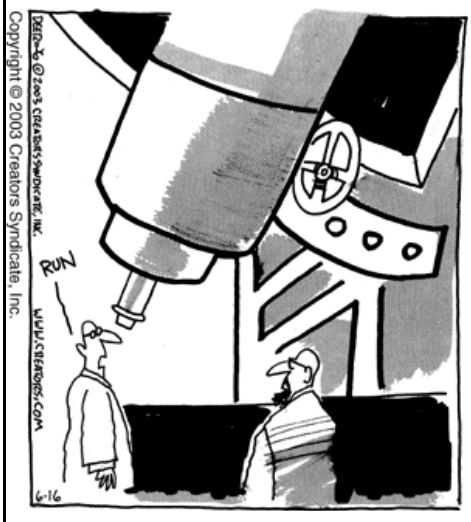
Thus prepared to gleefully capture as many dim photons as possible, I decided to start out with something easy, like Mars. Well, I couldn't seem to find Mars. When I was sure I had found it, I couldn't seem to focus on it. I tried moving on to the moon. No good either. What gives? I thought I knew what I was doing and that my focusing technique was right on. Dang!

It was like banging my head against a metaphorical wall. Jeff had to bail out, followed by the "civilians," and finally Rich had to go. They left at about 2:30 AM. Literally, as Rich was driving away and I was averting my eyes from his taillights, I found out what the problem was. I had the video camera settings configured for very dim deep space stuff, instead of relatively bright near space stuff, like Mars. Shucks! How could I have missed that? I slapped my forehead a couple of times and reset the video camera controls. Thus configured I began to "fly" over the moon. Not bad but I knew I was losing the battle against the dew and moved on quickly. At this point Pluto was below the tops of the trees so I couldn't test the accuracy of my carefully prepared chart. Shoot! I moved on to Neptune and then Uranus. Cool! There they were. I thought I could make out a couple of the moons of Uranus but that was probably wishful thinking given the moonlight and the growing dew problem.

When I tried connecting my camcorder to the video camera output I couldn't get it to record through the video input cable. It kept insisting on recording through the lens. Argh! The camcorder is new. I know it's able to record from another audio/video source but I couldn't figure it out. I used to be a technical writer and I can't count how many times I've told someone to RTFM (Read The Freaking Manual!) so it is with no small amount of embarrassment that I am admitting that after getting home that morning and opening the manual, I found my error right away. Ah well,

Want to share your viewing experiences with other club members or have new astronomy equipment you just can't wait to tell other about? Write an article describing your experience and send it to Jeff Hudson to be published in the Night Sky.

Strange Brew



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ON THE ROAD

By Rich Ruggles

July 26 Cuyahoga Astronomical Association OTAA Convention At the CAA observatory next to Letha House Park Barn in Chatham Township . On the web at www.geocities.com/cuyastro

August 7,8,9 A.L.P.O. convention in Boardman Ohio. Deadline for early registration is July 31st . All the information was in last months Night Sky

August 16 Astronomy on the river canoe trip

This proved to be a big hit last year, so let's do it again. Spend a quiet Saturday afternoon leisurely drifting down the Tuscarawas. Being ever watchful for that pesky Bazooka Ball splashin' down by your canoe.
This river trip is open to all so bring your family and friends. We will meet at Indian River Canoe Livery in Massillon, OH. We will the board vans that will take up 6 miles up river to our launch point. Halfway down we will stop and have a picnic at the Crystal Springs. There will be a privy and grill and tables for us to use.
The final 3 miles are when we play river ball. No one gets very wet unless you really want to. It's a fun day for all. No experience necessary. The river depth is 2-3 feet deep. Life jackets and paddles are provided. Cost per person is $12.00 based on 2 per canoe. Children in the middle are discounted.

What to bring: Cooler with food/drink. The kind that latch are best .To keep things dry use zip lock bags or tupperwear. Bring snacks and drinks to have on the river. Wear tennis shoes at all times. A sharp rock could end your fun real quick. Wear your bathing suit if you want. There are a few spots you can stop and play in the water if you like. Canal Fulton is about 12 miles south of Akron.

Directions to this most excellent adventure are as follows: Find Rt. 93; Follow 93 in to and through Canal Fulton. (Do not stop at the canoe livery in Canal Fulton, that is not us). Follow Rt. 93 out of town to the top of the hill where you will find Rt. 21. Go south to Massillon on Rt. 21. When you come to the first traffic light, turn right and the canoe livery is right there. Hope you can make it.

August 29—30 Field trip to Cherry Springs State Park in north central PA. The area is light pollution free and is called The Astronomers Mecca. More information to follow.

Know of an upcoming astronomy event that you think the rest of the club would like to hear about? Send the date, time and relevant information to Jeff Hudson to be published in the Night Sky.

News Briefs

Pluto's atmosphere is expanding

A team of astronomers from MIT reported that Pluto's atmosphere is expanding, even as the planet is getting further away from the Sun on its elliptical orbit. The team made their findings by watching the dimming of a star as Pluto passed in front. If all goes well, NASA will launch its New Horizons mission by 2006 to reach Pluto in 2015.

GMOS-S images rival Hubble

Thanks to its adaptive optics system and new imaging spectrograph, the Gemini observatory in Chile is producing images that rival those taken by the Hubble Space Telescope. One image of the Hickson Compact Group 87 (HGC87), a group of galaxies located 400 million light years away in the constellation of Capricornus, looks identical to that taken by Hubble. The seven-metre Gemini South is still being tested, but it's expected to begin scientific operations in August, 2003.

Unique Birthday Celebration

NASA Astronaut Ed Lu celebrated his 40th birthday on July 1 while orbiting 240 miles above the Earth in the International Space Station. Lu currently lives on the ISS as the Expedition 7, NASA Space Station Science Officer along with Expedition 7 Commander Yuri Malenchenko. Expedition 7 arrived at the Station April 28 to begin its six-month mission.

Missing Committees?

By John Crilly

Last month I suggested that the Club consider examining the Observatory telescope in terms of whether it is the most effective instrument for our intended purposes. I'm pleased to note that the article has caused some conversation among the membership and hope that interest in the subject will continue to grow. If the Club as a group ponders the issue and concludes that we already have the most appropriate installation then no harm has been done - and we will know that we are using it not because we have always done so, but because we have verified that it continues to be the correct tool. If a change is deemed appropriate then we can begin to make plans so it can be achieved as efficiently as possible.

This month I'd like to suggest that we consider our membership goals. We seem fortunate to have a very good mix of age groups within the club. It is common these days for organizations to experience a gradual increase in average age which, over time, obviously leads to a decrease in membership. The influx of younger members which prevents this implies that we are doing something right. My question for the Club this month is, "Do we want to grow in membership?".

I suspect that the consensus of the group would be that further growth would be desirable. Additional members make a larger force from which to draw volunteers for outreach activities, maintenance operations, and Club management. More members means more dues income, which can help ensure that the club remains solvent. More members present at meetings can help ensure democratic processes in club operations. These are my opinions, of course. My hope is that this article will encourage the membership to ponder whether or not they agree as a group.

If growth is not a goal, then we needn't consider methods of achieving it -but let's take a look just in case. Outreach is the most obvious way to encourage new members. First, it can help to develop interest in potential new amateur astronomers. Second, it can make existing local hobbyists aware that there is a local club to join. Publicity of whatever nature helps to achieve the same things. Other issues in gaining membership include retaining existing members and encouraging those who find us by one of the above methods to actually join.

The Club has a number of active outreach activities. I'm confident this is a good thing. Can its outreach activities be expanded? Should they? I suggest that, if this is an important Club activity, then a committee concerned primarily with it would be a good idea. There would be a short list of members who would be known to be contact persons for potential public demonstrations and they would have lists of members available for such on short notice. They could look for new opportunities and plan their implementation. They could act as liaisons with local colleges and high schools offering astronomy courses. Certainly many (perhaps all) of these things are being done now - I'm suggesting that the Club consider the advantages and continuity that could accrue from having a specified group of involved members.

An outreach committee could also help to maximize the benefit from public activities by ensuring that appropriate resources are made available. They could estimate the number of instruments required for a given number of subjects. They could plan things so that public activities with children present include sufficient attentive adults (either public or members) to ensure personal and equipment safety.

Good stewardship of volunteer efforts helps to ensure that volunteers will continue to be available.

Have something to say about amateur astronomy? Share your views with the rest of the club by writing an article for the Night Sky. Send your submissions to Jeff Hudson.

If you have items to sell, trade or give away contact Jeff Hudson to be listed in the Classified..

Classifieds

For Sale

Meade TravelView 9x63 binoculars.

These have seen very little use. These were $180 new. I'm selling for $90.

Email: glenn@cameronclan.org

Astronomy Yard Sale (prices lowered)

90mm ETX new and in the box, has one eyepiece and a erect view finder $250.00

8" f7 Discovery DOB w/2" focuser and 1 ¼ adapter, Pyrex mirror, 25mm & 10mm eyepiece and a TELRAD base $400.00

8" f7 Criterion Dynascope Original on EQ pier mount RA & DEC setting circles
8 x 30 finder $500.00

10 ½ Star-Liner telescope on a heavy duty EQ mount on a rock solid pier.
RA & DEC setting circles, RA & DEC drives w/ 8 x 30 finder $725.00 O.B.O.

42mm 5 element RENI Erfil eyepiece $45.00

28mm 5 element RENI Erfil eyepiece $45.00

7.4mm to 22.0mm zoom eyepiece by Pro Optics $35.00

6 x 30 Discovery finder w/ mount $30.00

Planetary filter set of 5 in a case $40.00

Celestron 2x Barlow (short) $45.00

Mead 2x Barlow (long) $35.00

Contact Rich Ruggles Astronomy1on1@cs.com

Astro Garage Sale continues...

Orion/Vixen VX120NA 5" F7 neoachromat (two doublets) refractor - this one was blessed by (and purchased from) Dr. Clay! - 2.7" focuser, Vixen rings and dovetail plate $850

Losmandy rings and Losmandy G11-style dovetail for above (with scope purchase only) $135

Orion/Vixen 80mm F6.7 ED refractor - 2" focuser - $375

Tele Vue Genesis SDF 4" F5.4 flourite APO refractor (two doublets) with clamshell, hardshell case, GP-style dovetail plate, Starbeam with flip mirror, Everbright 2" diagonal - $1800

Celestron 6" F8 Chinese refractor with rings and GP-style dovetail plate - $350

Celestron CGE1100 - carbon fiber, Fastar-compatible C11 on computerized heavy-duty Nexstar GEM - new model just out this year - like new - never been outside - $3650

Meade 10" LX200GPS purchased new this year- all standard accessories - like new - never been outside - $2400

Meade 2" 40mm SWA eyepiece - Japanese smooth-side version - $235

Meade 2" 56mm 4000 series Super Plossl - $165

Meade 1.25" 13.8mm SWA eyepiece purchased new this year - $125

Tele Vue 1.25" 4.8mm Nagler purchased new this year (NEAF) - $100

Tele Vue 2" 17mm Nagler Type 4 purchased new this year - $325

Tele Vue 1.25"/2" 12mm Nagler Type 4 - $300

Celestron anniversary eyepiece kit (5 plossls, Barlow, filters, aluminum case) - new $150

Please contact John Crilly jcrilly@neo.rr.com

ACA Fundraising

The Star Book $10.00

The Binocular Star Gazer $10.00

The Universe From Your Backyard $15.00

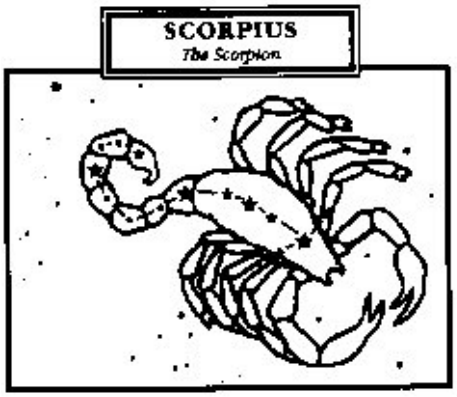
The Photographic Atlas of the Stars $25.00

Small Levy Star Wheel $10.00

Large Levy Star Wheel $16.00

Contact Jeff Hudson to purchase any of these items.

Constellation of the month



By Jeff Hudson & Jay Svitko

Scorpius the Scorpion (Sco) is sprawling constellation which lies near the center of the Milky Way. It is easily visible in the summer southern sky just after sunset and through most of the night.

The heart of the scorpion is the star Antares, which is a red giant and the 15th brightest star in our night sky. Below and to the left of Antares is a chain of stars that curves down and then back up, the scorpion's tail and it's stinger. Above and to the right of Antares is a semi-circle of five stars representing the scorpion's claws.

Since Scorpius lies near the center of the Milky Way it contains many open and globular star clusters.

M-80 is a small, tightly concentrated globular cluster seen through binoculars as a fuzzy star.

M-4, known as Ptolemy's Cluster, lies about 1.5 degrees west of Antares, and is a large globular cluster. About 8-10 stars appear to form a bar right through its center, and gives the impression that the cluster is slightly elongated.

M19 is found about 8 degees east of Antares and is a small globular cluster.

M62 is one of the most irregular shaped globular clusters, visually M62 is similar to its neighbor M19.

M-6, commonly known as the Butterfly Cluster, is a large open cluster, about 25' in diameter and contains over a hundred bright and relatively bright stars. This cluster may be visible to the naked eye as a faint patch of light.

M-7 is an open cluster that is almost a degree in diameter and contains many bright stars loosely concentrated at it's center. When M7 is viewed through a telescope, NGC 6453, a faint globular cluster, is visible at the western edge.

To the south of M-4, are the two stars marking the stinger. Shaula and Lesath were also known as the two eyes of an ancient celestial cat.

Next month is Hercules

Writing a column about a different constellation every month is a good way to learn, but there are bound to be mistakes. Send any corrections or comments to Jeff Hudson.

Observatory Report

(Continued from page 3)

tem. Using a large display monitor, people in line and those few who can't negotiate the ladder could appreciate what we are observing.

Any of these scenarios would be ambitious projects financially. A planning/steering committee would, as John suggests, be the correct first step in this direction.

Shooting Thingy

By Jeff Hudson

I misspoke the one night and was quickly corrected by about 6 people at once. I was thinking meteor but my mouth, just to get me in trouble, said "meteorite".

Just so you don't end up like me, here is a little reminder:

A meteor is the luminous phenomenon seen when a meteoroid enters the atmosphere, commonly known as a shooting star.

A meteorite is a part of a meteoroid that survives through the Earth's atmosphere, usually but not always hitting the ground.

A meteoroid is a small rock in space.

Maybe I would have been better off saying, "Look its one of them there shooting thingys".

2004 Materials

By Jeff Hudson

The other day I received the order forms for the 2004 Observer's Calendar and the 2004 Observer's Handbook from The Royal Astronomical Society of Canada.

In the past the ACA has order several copies of each publication and resold them to members and the general public. Unfortunately we have been stuck with several copies of both well into the new year. Instead of ordering to many and wasting the club's money, this year I will only take pre-orders. There will be no extra copies.

The Observer's Handbook is in its 96th year of publication and contains sections dealing with astronomical events which occur during the current year and sections dealing with astronomical data and other information that may not vary from year to year.

Also there is a 24-page section called "The Sky Month By Month" which gives an extensive listing of events. This is the section I refer to most often throughout the year.

The Observer's Calendar features, beautiful full color photos, historical anniversaries, birth dates, and literary quotations of astronomical relevance, monthly information on planetary conjunctions, eclipses, major meteor showers and other astronomical data.

To order one copy of the handbook cost $25.95. If I can order 10 to 24 copies, the price drops to $15.00 per book. I expect there will be enough orders for each of us to only have to pay the lower price.

In addition, a single wall calendar would cost $17.95. If everyone who orders a handbook also orders a wall calendar then we will only have to pay $8.00 for each calendar.

At the September club meeting, I will give an update on the number of pre-orders for each publication.

I order the desk calendars from a different company, when I get the information I will take orders for those too.

Please fill out the form below, and get it to me. Since you may not want to cut up your Night Sky, I will accept copies of the form.

RASC 2004 Handbook & Calendar

_____ copies of the Calendar
_____ copies of the Handbook

Name _____
_____

Address_____
_____
_____

Signature _____
Date _____

- -

RASC 2004 Receipt

Signature _____
Date _____

Persied Meteor Shower

By Jeff Hudson

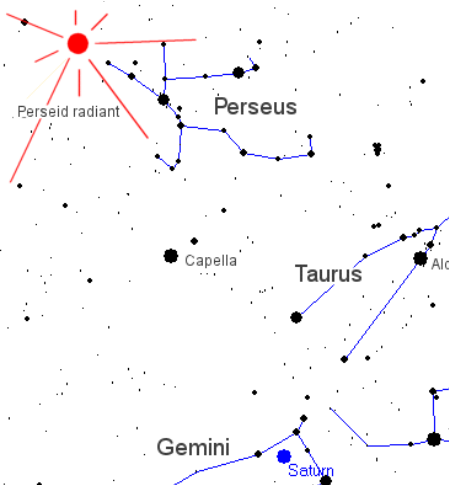
It's time to get ready for the Perseid meteor shower.

This year the shower is from July 23 through August 22, with the peak being on Wednesday, August 13th.

This year there will be a full moon, so the best time to look will be just before dawn on Wednesday morning.

Below the radiant will be Saturn and in the opposite direction will be the Moon and Mars.

When the Perseid meteor shower peaks, Mars will be only two weeks away from it's closest approach to Earth..



Next Month ...

An all mars issue! Send your Mars info to Jeff Hudson for publication in the Night Sky