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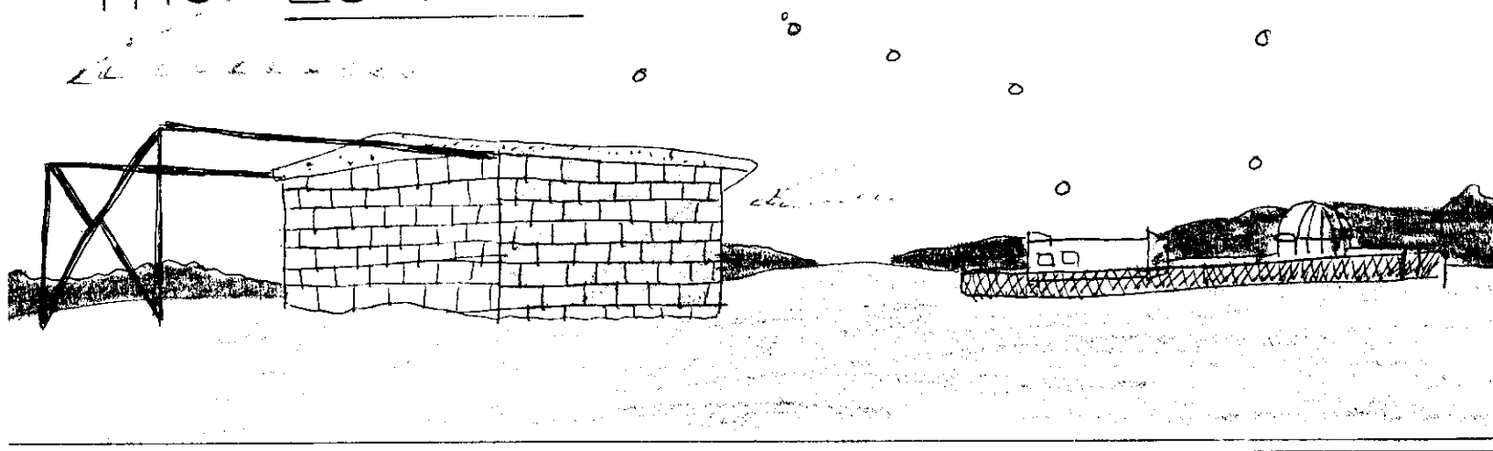
The ECLIPTIC



Newsletter of the LACKAWANNA ASTRONOMICAL SOCIETY, Scranton, Pennsylvania

LAS OFFICERS AND BOARD MEMBERS FOR 1987

President - John D. Sabia
Vice President - Jo-Ann Kamichitis
Secretary - Glenn Jacobs
Treasurer - Diane Musewicz
Junior Vice President - Tom Holeva
At-Large Members - Esther Friedmann/Steve Gedrich/Ed Sidorski

LAS CALENDAR

DATE	ACTIVITY	PLACE	TIME
Sept 1 Tuesday	Regular monthly meeting	LAS/KJCO, Fleetville	7:30 PM
Sept 12 Saturday	Official Club observing night	LAS/KJCO, Fleetville	9:00 PM if clear
Sept 8 Tuesday	Board of Directors meeting	home of J.D. Sabia	8:00 PM
Sept 12 Saturday	Pleiades occultation	LAS/KJCO, Fleetville	8:00 PM
October 6 Tuesday	Regular monthly meeting	LAS/KJCO, Fleetville	7:30 PM
Oct 10 Saturday	Official club observing night	LAS/KJCO, Fleetville	9:00 PM if clear
Oct 13 Tuesday	Board of Directors meeting	home of J.D. Sabia	8:00 PM
Nov 3 Tuesday	Regular monthly meeting Election of Officers	LAS/KJCO, Fleetville	7:30 PM
Nov 14 Saturday	Official Club observing night	LAS/KJCO, Fleetville	9:00 PM if clear
Nov 10 Tuesday	Board of Directors meeting	home of J.D. Sabia	8:00 PM

On all clear official club nights, a keyholder to KJC/LASO will be present (either John Sabia or Jo-Ann Kamichitis.) Even on club nights, if you must travel any great distance to get to KJCO, please call J. Kamichitis to be certain of the sky conditions and availability of a keyholder. Also, if the weather is at all iffy, call first to make the arrangements definite. On other clear weekend nights, contact J. Kamichitis (343-4006) to see if the place will be unlocked or whether you will have to bring your own 'scopes

and warm up in your car. KJC Observatory's phone number is 945-3665, but people are not always near to the phone to hear it. KJC/LASC is on Route 107 about halfway from Exit 61 of I 81, as you head to Fleetville Corners. You take a left on Hack Road.

PRESIDENT'S NOTES

Well the time is now approaching that I must step down from the office which I have held for the past two years. The main reason that I ran again for the office was to complete a project that began years previous. I had hoped to complete the 12½" scope and put it into use both visually and photographically. Now with some luck, some of the first photographic results may be seen at a meeting before the year is over. Of course I had a lot of help and advice from the membership. In particular I would like to thank Joe Kamichitis, Joe Mazzarella II, and Ed Siderski for their time and skills.

According to the bylaws of the LAS, a person can hold the term of office of President for only two consecutive years. Therefore, I cannot serve another term. A nominations committee is also required to be formed at the September meeting and report at the October meeting, elections are held at the November meeting.

At the July meeting the membership present at Keystone Junior College Observatory overwhelmingly agreed to purchase the lastest astronomical star atlas. Known as URANOMETRIA 2000.0 it is a compilation of 330,000 stars and over 10,300 non-stellar objects. The atlas consists of 473 charts, each chart measures 9 by 12 which are bound in hardback books. Since there are so many charts, the entire atlas is split into two volumes. The first volume covers the Northern hemisphere to -6° in 259 charts. For additional information on this work see the article in the July '87 issue of Sky & Telescope. These charts will come in handy when using the 17½" scope. Volume One of the URANOMETRIA 2000.0 is priced at $39.95.

Also along that line the Society has received three issues of The Observers Guide. I must admit this is a fine publication, the most outstanding feature is the paper quality for the reproduction of the many fine photographs. Each issue is dedicated to an in-depth review of the many deep sky objects including visual accounts by numerous observers. I would recommend this bi-monthly magazine to anyone. Subscription rate - 1 year (6 issues) is $12.00

Write to: The Observer's Guide
P. O. Box 35
Natrona Heights, PA 15065

Just before the July lecture series began at Keystone Junior College Observatory, I received a phone call from Rick Dilsizian. He introduced me to David Deskins who I had some phone conversations with last year. Mr. Deskins was compiling amateur photographs of Comet Halley for use in a privately published book he was working on. With this call, David informed me of the book completion and he wished to stop by and let me have a copy of it. Mr. Deskins had been traveling down the east coast making his way to Washington, D. C. The next day I spent a beautiful afternoon with David Deskins, giving him the "tour" of the Observatory as such. The hours passed quickly as it does when company is enjoyable. I displayed the book at the talk Bill Speare gave on the return of Comet Halley and received numerous requests on where to purchase this book. For those who did not get the address or title, it is as follows: Looking Back: Amateur Adventures With Halley's Comet 1985-1986 by David Deskins
$19.95 post paid (U.S.)
Intrinsic Publishing Corporation
P. O. Box 1137
Pikeville, KY 41501

FALL OBSERVING SESSIONS

The Wednesday KJCO public nights will begin in mid-September and continue until mid-November. The sessions start at about 8:00 PM with a slide show followed by observing through the 9" Clark weather permitting. The slide shows are different each week.

J. M. Kamichitis

MERCURY: THE SWIFT-FOOTED MESSENGER

It seems to me that we've all heard about the mythology concerning the constellations . . . but no one ever talks about the planets.

Mercury, or Hermes in Greek, was the son of Zeus and Maia, a daughter of Atlas. (She is also one of the stars of the Pleiades.) Upon birth, being a god, Hermes began to walk around the cave on Mt. Cyllene in Arcadia, where he was born. He walked to the entrance and found a tortoise, which he brought into the cave and killed; he then made a soundboard for a lyre from the shell. (Incidentally, tortoises are common in Arcadia even today.)

At this time, Apollo had in his possession a fine herd of cattle. Hermes, while still a babe, stole them ingeniously from Apollo by making the cows walk backwards, thereby baffling Apollo as to where the cows went. However, an old man saw this and reported to Apollo.

Apollo, in a great rage, flew to the cave only to find Hermes peacefully sleeping in his cradle. In spite of Maia's protests, Apollo woke the babe and demanded to know where his cows were. (Hermes killed two of them to make strings for his lyre.) As it was, Hermes looked up at the irate god and said, "What are cows?"

At this, Apollo carted him off to Zeus. (Oh, by the way, Apollo is Hermes' older brother by a different mother.) But Zeus was so amused that he tended to encourage Hermes' impudence. At any rate, Hermes finally revealed the truth and showed Apollo the lyre. Apollo was so charmed that he gladly gave Hermes the rest of the herd in exchange for the instrument.

Zeus, seeing Hermes' cunning and ingenuity, made Hermes the ambassador and herald of the gods. Apollo gave Hermes his golden shepherd staff, the kerykeion or caduceus, which is a winged staff with two entwining serpents.

And what has become of Mercury? Alas, he has now become the FTD Florist, speeding to deliver flowers instead of messages. Truly a Greek tragedy.

Tom Holeva

SUMMER IS FOR SATURN

Excerpt from LVAAS Inc., Newsletter "Observer" June 1987 issue. We didn't have room for this in the July issue, but Saturn will still be out for a while.

When you look with the naked eye for bright Saturn this summer, you won't find it in either Scorpius or Sagittarius. Rather it will be spending the season as well as the year in Ophiuchus. The sun actually spends about 18 days in this constellation as it skirts the zodiac region between Scorpius and Sagittarius. Currently, Uranus is also in Ophiuchus.

Under reasonably good seeing conditions a 3" telescope can be expected to show three moons, while a $3\frac{1}{2}$" to 4" instrument will raise this number to five. Eight to 10" scopes will reveal as many as seven moons under good viewing conditions.

During this apparition, the north face of the rings will be open at almost their maximum inclination, allowing even a 2" to $2\frac{1}{2}$" refractor to reveal the dark girdle of Cassini's division (90x to 100x). This is an interesting case of detail visible far below the theoretical resolution limit of the telescope. The Cassini division is only about 0.7 second of arc, but it was discovered with a 2-1/3" objective at 90x. The theoretical resolution of such an instrument is about two arc seconds, but because of the high contrast difference between the rings and the division, the 3100 mile gap can be revealed.

With luck, the much fainter Encke division in the A ring may be glimpsed in apertures between four and eight inches, if these instruments have high contrast factors. It is usually a test for an 8" telescope, though when the rings are almost fully open as they will be this summer, objectives of half this aperture have revealed this 170 mile feature.

The history or observations of minor divisions in the ring system of Saturn is an interesting one. Before the Voyager flybys of Saturn in 1980

and '81, almost all professional astronomers recognized one true division in the ring structure. This was the Cassini division that I mentioned earlier. Amateurs, however, had reported as many as two dozen real divisions. The professional viewpoint was promoted by the great planetologist, Gerard P. Kuiper and his ring observations made in 1954 with the 200" Hale reflector on Mt. Palomar. Viewing at 1170x, Kuiper believed that there was only one true division. The others were merely intensity minima, ranging between 10-15% below the normal ring brightness. These variations were not considered to be gaps, and because of this, Kuiper recommended dropping the word "division" and substituting "intensity minimum" instead.

It is now known that the Voyager photographs proved Kuiper mistaken. Instead of dozens of divisions, there are literally thousands of circular ringlets composed of untold icy particles orbiting majestically around the planet. The amateurs were much closer to the reality of the situation.

Where did Kuiper go wrong? I pointed out years ago that the 200" was not well-suited for the type of observation he was making. The central obstruction of the 200" is six feet in diameter or 36% of the diameter of the primary. This mirror is, in turn, supported by thick struts to stabilize the prime focus cage which easily accommodates an observer. Kuiper was using a magnification of 1170x, high compared to the 200x-400x used by amateurs, but only about 5½ power per inch for the Hale reflector. At such a low power, the glare caused by the brilliance of the planet, coupled with the enormous scattering properties of the telscope's central obstruction and supports, would have effectively suppressed any low contrast detail in the rings. Magnifications below 15x-20x per inch are unsuited for making the fine detailed observations which were necessary. Kuiper also failed because the 200" requires a magnification of at least 25x per inch to show all of the resolved information in the image. In reality, Kuiper should have been using a magnification of about 5000x. Accounts of why amateurs were able to see so much more with their smaller instruments can therefore be readily explained. They were simply optimizing their telescope and eye optics.

Saturn does not present the wealth of detail that can be observed in Jupiter's cloud layers. Occasional spots are glimpsed, and as many as three belts can be seen, capped by a greenish polar region. The shadow of the rings can sometimes be observed on the ball of Saturn. Unfortunally, except for Titan, Saturn's moons or their shadows are too small to be seen easily transiting the disk. These events can only be observed when the rings are edge on, an event that will not be occurring for another eight years.

This paucity of detail still does not detract from Saturn's reputation as the most beautiful sight in the heavens. Jupiter shows far more detail: Mars presents a scene not unlike a miniature earth, but for sheer beauty, Saturn is the planet that is the most eye appealing. A famous atheist once remarked upon viewing Saturn for the first time that "It's enough to almost make one believe there is a God -- almost!!" Regardless of one's religious persuasions, Saturn will provide plenty of good opportunities for pleasant warm weather viewing as it traces its leisurely path across the heavens this summer.

Rodger W. Gordon

MEMBERS' NEWS/NEW MEMBERS

Esther Friedmann happily reports that in early August, her son and daughter in law, Gary & Glenon, presented her with a new granddaughter, Shelli Brymn Friedmann.

Scott and Debbie Holmes Palmer have moved to New Hampshire from Moscow, PA. The LAS will miss her. Debbie's been an LAS'er since the late 1960's and has frequently served as an officer and board member.

Walter Bennett has spent the summer working at Kitt Peak and the National Optical Astronomy Observatories Office in Arizona. Can't wait to have him come back home to tell us the details of how things went.

Joan Moritz has moved back to Florida. She was the member who traveled the farthest to help out at the Promised Land Star Parties.

We've had several people sign on as LAS'ers after attending the summer lecture series, or just coming up for casual observing. Hope that some of our fine veteran club supporters will make the trip to Fleetville some time, just to see why we enjoy it so much.

Please add these new members to your membership list:

Barbara Arneil, 77 Pike Street, Carbondale, PA 18407 282-2207
Mark Clark, 1515 Clay Avenue, Dunmore, PA 18509 342-4002
Carl Daiute, 110 Woodlawn Drive, Peckville, PA 18452 383-0438
Carol and Arvo Leola, R. D. 2, Box 36, Dalton, PA 18414 586-1582
Mary Ann Lynch, 1704 Tall Trees Drive, Scranton, PA 18505 347-0735
Michael McDonald, 2016 Green Ridge Street, Dunmore, PA 18512 342-3644
Ben Ropetski, 314 West Shawnee Avenue, Plymouth, PA 18651 779-1038
Jim Spangler, R. D. 6, Box 253, Clarks Summit, PA 18411 587-3972

WHY WE DON"T OBSERVE MORE

From the "SPACExaminer" newsletter of SPAC Inc., St. Petersburg, Florida, August 1987 issue.

Too many of us observe far less than we would like to mainly because of the "limitations" or "conditions" placed upon us either voluntarily or otherwise.

For the average amateur astronomical observer the following "conditions" severely limit our observing time:

1) First we seem to want to observe almost exclusively on Saturday evenings mainly because most of us are tied to a 5 day work week and we're not as exhausted on Saturdays and also we do not have to get up early the next day. This "limitation" deprives us from all but 52 potential observeing days a year.
2) Secondly, most of us want to do deep sky observing which nessitates that the moon can't be up. This limitation further reduces the potential number of nights to 26.

3) Thirdly, we don't want to observe in the deep freeze of winter or the heat of summer - to avoid the affliction of freezing or insects. This reduces the nights to about 18.

4) Fourthly, most of us can't observe on or near holidays because of family commitments. This involves a loss of at least 3 more nights which leaves us with 15 potential nights per annum.

5) Fifthly, the chances of 15 nights all being acceptably clear is practically nil, therefore weather limitations reduce the figure to about 8 nights.

6) Sixthly, additional social commitments limit the figure even further down to 3 or 4 nights per year. (WOW! This is depressing!)

The only alternatives to increasing the available observing nights are to: 1) try to utilize Friday and mid-week nights, something very difficult metropolitan inhabitants to arrange; 2) Develop dressing strategies for coldest weather comfort, and researching insect repellant tactics can return some of the winter and summer nights; 3) getting more involved with bright object astronomy such as lunar, planetary, & solar can get some out into their backyards.

But in all sincerity, the most effective way to get out observing is to KNOW in advance when the dark sky peroid of each month is available, keeping this in the back of your mind, so that when that clear free night crops up - consider it a fortunate opportunity to be utilized. NEVER give up a clear night NOW for one later because if you do, you will be punished repeatedly by bad weather. By following this advice and finding other determined observing partners, you will find yourself getting out more than 3 or 4 nights a year to observe.

Dick Suiter

COMPUTERIZED SCOPES - PROS AND CONS

What may be a boon to the astronomical community is now available as an accessory for most telescopes -- micro-computers that not only can direct a telescope to any given position in the sky, but also contain a "hand-coded memory" of thousands of deep sky objects.

Any one with money burning a hole in their pocket can buy a computer controlled telescope. Then after assembling it, polar aligning (all you'd need to know is two constellations and the location of the celestial pole), you could be observing some of the most difficult and obscure deep sky objects within minutes. Voila! Instant observing expertise! While you could do almost as well with good polar alignment, accurate setting circles, and manual controls, the machine can do the locating much faster, thus enabling you to view many more objects in one night than normally possible.

To my way of thinking, this style of observing takes away the fun and enjoyment of hunting down and finding these elusive jewels of the night sky. Much of the gratification derived from viewing an object, be it cluster, nebula, galaxy or variable star, comes from a successful star-hopping hunt, utilizing mind, eyes, maps and charts. It's the difference between doing crossword puzzles or just buying a book of filled-in crossword puzzles.

Deep sky objects seldom look like the photos in books. What gives them individuality (especially the galaxies in the Coma-Virgo region or the globular clusters in Ophiuchus-Scorpius-Sagittarius) is your attention to details. Careful scrutiny of their appearance and of the patterns of stars around them, as well as of the path you took to find them, lets you recall which object is which. It's more of an achievement to have locations in your own memory bank than in your computer's memory bank.

The ranks of amateur astronomers were swelled by people fascinated by Halley's comet. This sort of faddish interest has led to a lot of telescopes "used only once" being advertised "for sale" in the classified. People didn't want to take the trouble to learn the constellations, or to learn polar alignment so their "super-deluxe" telescopes would work.

People who do not want to work a little at their hobby will never stick with amateur astronomy. You can't buy enduring fascination with the skies. Beginners who learn the constellations, become familiar with the skies using binoculars, and are willing to go one step at a time, are the ones who, ten years down the road, will still be amateur astronomers and will now be the old timers and expert observers. People who want to be experts instantly will find themselves thousands of dollars poorer, with a telescope that shows them in rapid succession, many "identical" little fuzzy blobs. These people will not still be in the hobby ten years from now, but instead will be numbered among the victims of the lure of letting the computer do all the work.

There are real advantages to a computer-controlled telescope. Consider variable star observing. Very often, people are discouraged from this valuable program by the long tedious process of finding the variable star's field. The computer can let you get right to the business of estimation magnitudes and let you do many more stars in each night. This is true for both visual and photoelectric work.

By relieving the astrophotographer from the mundane task of finding the objects, the computer frees the amateur to take better advantage of the rare dark sky night he has.

Amateurs who want to make a real contribution to the science of astronomy will have the capability to set up automated sky survey programs or routine data collecting that the big observatory complexes cannot afford to spend telescope time on.

Computerized telescopes do have a place in astronomy, but not as a starting point for the hobby, anymore than calculators have a place in teaching small children how to add and subtract. Take the time to enjoy the night sky and revel in its observing challenges. The real basis for amateur astronomy is the love of the night sky, not speed and technology.

John D. Sabia and
Jo-Ann Kamichitis

ANNOUNCEMENTS

IGA Register Tapes Please remember to hand in the tapes you have been saving, at the meetings or send them to Diane Musewicz.

Membership Packets To All recently signed up members (not renewals); you will soon be receiving in the mail the membership packet due you. There is still one information sheet that has not been printed up, however,you will be getting that with the next news letter. Sorry about the delay!

Say "Yes" to the LAS #1 We need you to provide ideas and suggestions for programs and activities. The Board feels that the club has a lot to offer the membership. If you don't agree, then let us know how we can improve.

Say "Yes" to the LAS #2 We need volunteers to give programs at the meetings. The majority of our programs are given by the same small group of people. We need variety and they need a break.

Say "Yes" to the LAS #3 Election of officers soon. When people ask you to serve the club in some capacity, you'll now know what's involved.

At Large Members - must attend board meetings. Are expected to provide input on what the club needs or should do, and as board members, guide the club as a whole.

Jr. Vice President - Provides the perspective of our younger members' needs.

Treasurer - Writes out all checks for donations and purchases. Collects dues and donations. Keeps the membership list current. Prepares monthly and annual reports.

Secretary - Keeps minutes of all meetings,handles correspondence and publicity. Prepares monthly and annual reports of club activities.

Vice President - Chairs meetings if the president cannot; chairs executive committee meetings. Other duties as needed.

President - Chairs all meetings, appoints committees, and such posts as historian, librarian, editor, etc. Is responsible for programs, and agendas, and is expected to be the spokesman for the club as well as prepare the calendar and an article for each newsletter.

OBSERVATORY ASIDES

Public nights went well this wet July, even with some of the hottest, muggiest, mosquito-ridden nights we've ever experienced up there. We had attendences of 20 to 50 people most nights with many regulars. The last two weeks we even got some pleasant and clear nights. These made up for the one session we cancelled since the thunderstorms and flooding were so bad that only Joe and I made it up there. There were several regulars attending there, four of whom became members at the August meeting!

LAS activities were not that successful. Our trip to Stoney Brook (115 miles round trip) was accompanied by heavy rains. The LAS's cookout (announced at the July meeting) had overcast skies with some showers off and on. As usual, whether mentioned in the newsletter or at the meeting, theattendees were mainly the officers and their families. Still a good time was had by all, especially the "sub-junior" members.

More successful were the nights when someone called up and nudged me out of my inertia of being "tired" on a clear night, with an early moon-rise. One of our "nudge-nights" was August 12; Joe and I went up because some LASers had called about the Perseids. Once there, we bumped into some people at the gate who had the idea it was public night. So showing them the scopes and the sky let us enjoy the deep sky before moon-rise, see some good meteors and check out the moon, Saturn, and Jupiter. We also got two new members.

Another "nudge night" was Saturday, August 15. We got four new members from that night,as well as another night to enjoy the summer Milky Way view before moon-rise.

Since we had been contacted too late to book them, we didn't have any Promised Land Star Parties this summer. I missed them. Even though it is somewhat of a drive to get there, it is not an outlandish distance like the Stoney Brook trip. You get to talk to people of all ages and to view under gorgeous skies. We'd made a social committment in Greentown (outside of Promised Land) on what turned our to be a gorgeous night. I'd like to get every one in the club out there to experience those crystal skies with brilliant sparkling stars that seem close enough to touch. That would really pep up this club! As we drove home on I 84 you could clearly notice how much the skies dim out as you head to Moscow and the more built up areas.

Make use of the clear nights you have while you can. Who knows what future development and pollution will bring. Think how lucky you are. Compare what's available to you as an LASer to what amateurs put up with in large urban areas. (Read the August 1987 Sky & Telescope for an idea.)

Jo-Ann Kamichitis

The "Ecliptic" is the bimonthly newsletter of the Lackawanna Astronomical Society. A subscription to the "Ecliptic" is one of the benefits of membership in the LAS. No permission is needed for nonprofit use of any material published in the "Ecliptic" provided it is properly credited.

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