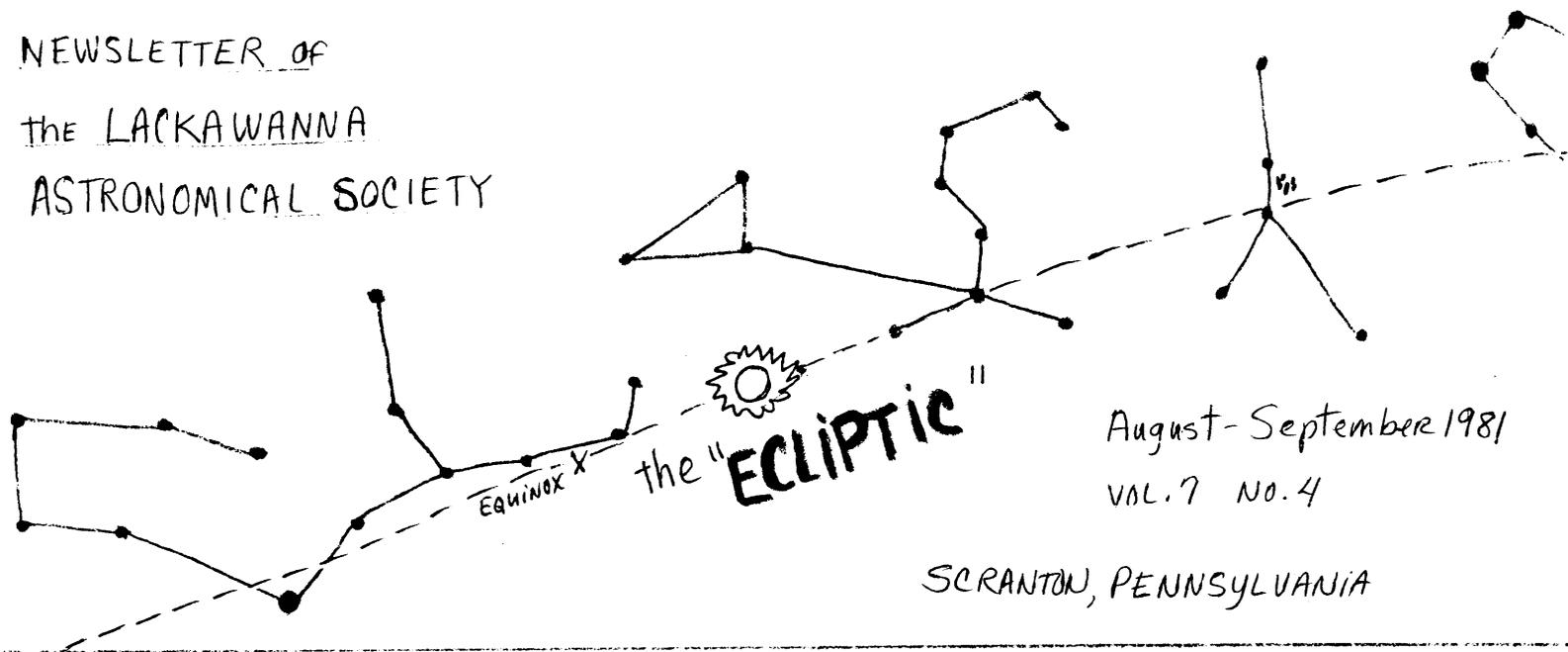


NEWSLETTER OF
 THE LACKAWANNA
 ASTRONOMICAL SOCIETY



LAS OFFICERS AND BOARD MEMBERS

President - Joe Kamichitis Vice Pres/Historian - Jo-Ann Pluciennik
 Secretary - Mary Ellen Granville Treasurer - John D. Sabia
 Jr. Vice Presidents - Jill Adelstein/John Koshinski
 Members at Large - Joe Bartos/Debbie Holmes/Bill Mecca

SEPTEMBER MEETING

The next regular meeting of the LAS will be held on Tuesday, September 1, at 7:30 pm at the Everhart Museum. Bill Speare is back from the Siberian total solar eclipse (he did not defect as was rumored) and even though suffering from a bad case of jet lag, he did manage to verify that the museum would be available. Bill has promised to show his slides of the eclipse to the club later this fall. He said the most impressive thing about this rather short eclipse was the spectacular diamond ring effect that signalled the start and end of totality.

Since attendance was low for the August meeting, we may have a repeat showing of select photographs of the partial lunar eclipse of July and some of the Stellafane convention. However, the highlight of the September meeting will be a talk by Joe Mazzarella on red-shift interpretation. Joe spends his summers with the LAS; the rest of the year he is at Penn State learning to be a "real" astronomer. Is the universe really expanding, or can the galaxies' red shifts be interpreted differently? Could it be that Hubble's Relationship does not work for everything? And what about quasars? This is not a meeting to miss.

CALENDAR OF FALL ACTIVITIES

Regular Meetings - 7:30 pm at the Everhart Museum, Scranton, PA.

Board of Directors' Meetings - 8:00 pm at the home of Jo-Ann Pluciennik. Any interested member may attend. Contact Jo-Ann to be sure of date and directions.

Club Nights - Contact John Sabia (586-0789), Jo-Ann Pluciennik (346-3268) or Joe Kamichitis (346-4562) to see about the availability of equipment and facilities on any clear Friday or Saturday night. Scheduled dates are the weekend after the meeting at KJCO/LASO, Fleetville, PA.

Month	Regular Meetings	Club Nights	Board Meetings
Sept	1	4 & 5	15
Oct	6	9 & 10	20
Nov	<u>10</u>	13 & 14	24

OBSERVING NOTES

In the northern hemisphere, July to December seems to be the prime period for meteor observing. At least that's what our observations here indicate. During the July lecture series at KJC, there were numerous sightings of meteors by LAS members and the public. These included Delta Aquarid and Capricornid shower members, as well as some fine sporadics.

I received a report from Bob Maleninsky of a fireball observed in Sagittarius on August 10, 1981 at 12:45 am EDT. Bob estimated its brightness at -10 and stated that the meteor cast shadows and made a hissing sound as it travelled. Bob was viewing the skies from the observatory parking lot. Some people from Taylor also told me of the same meteor, but did not indicate hearing any sound.

I would like to encourage members to try stationary camera exposures on some of the remaining good evenings. You never know what you may catch on your negative.

Looking ahead for the remainder of the year, we see the last quarter moon interfering with the Orionids of October and, the Leonids of November, while the full moon affects the Geminids of December. This does not imply it is impossible to get a good meteor trail on a photo, or that no good meteors can be observed.

Last year the Geminids had a good display -- very beautiful meteors, bright and numerous. During the evening, we noticed that some of the sporadics seemed to fit a pattern. A new minor may be developing with a radiant in Gemini near the cluster M35. (See Sky & Telescope, April 1981.)

Through good fortune, James Filipski captured one of the brighter meteors on film. This year I plan a photographic and visual hunt for these meteors. Reports from other members will be helpful and appreciated.

SHOWER	Date	MAXIMUM Time EST	Moon Phase	SINGLE OBSERVER HOURLY RATE (For comparison Perseid is 50)
Orionids	Oct. 21	7:00am	LQ	25
S. Taurids	Nov. 2	5:00am	FQ	15
Leonids	Nov. 17	1:00 am	LQ	15
Geminids	Dec. 13	11:00pm	FM	50
Ursids	Dec. 22	8:00am	NM	15

Reference - The "Observers Handbook" 1981 RASC Publication

John D. Sabia

LASO GOING ELECTRIC

Two more milestones toward the completion of the LAS Observatory were reached in the last month or so. July saw the finish of the 150 feet long, 6" wide, 10" deep (62,5 cu. ft.) trench dug in 90% rock and 10% soil. The power cable was laid and covered as the work progressed since we didn't want any cows with broken ankles.

In early August, the electrical fittings inside and outside of the building were installed. This work was done by Mr. Dave Davis, a local amateur astronomer (but non-member), and the LAS hereby officially thanks him for his efforts. Major work in this area still to be done is hooking up to the Keystone classroom building and we hope this can be done in the near future.

The underside of the roof has been given a coat of paint, however, we still would like to repaint the outside of the building and give at least one coat of paint to the inside walls. If you'd be willing to help out, just give your name and phone number to any officer at one of the meetings or call them up to volunteer. Don't worry if you lack experience or skill, we've opted

for rugged, rough-hewn decor rather than a highly polished look.

REVIEW OF PERFECTION XR-1 DEVELOPER

Several months ago many of you probably read about a new film developer invented by a man who used to live in the Scranton area. It is still not on the market yet, but a few phot shops around the country get it in limited quantity. Fortunately Scranton Photo is one of them.

The developer comes in three foil packets that will each handle about ten rolls of 36 exposure apiece. Once opened the dry concentrate is good for one month if kept tightly sealed. The secret of this developer is that you mix up one stock solution (maximum of 8 oz.) and then dilute it with water to such ratios as 1:7, 1:3, etc. depending on film type and speed you wish to push it ot. (Every non-photographer reading this just quivered! He used the words "speed" and "push.") All this means is the film's sensitivity to light i.e. Plus - X 125, Tri-X 400 and how far you want to extend this speed, Plus-X to 800 or Tri-X to 6,400. The higher the number, the more sensitive the film.

And now what you've been waiting for. Imagine an ASA 6400 film where you can make an 11 x 14 print and get no grain. Well this time it's not the film, but the developer. It's guaranteed. Just think of loading up the camera, looking it up to the ol' 'scope and zipping off an exposure of M-51 almost four times faster than your Tri-X exposure and getting no grain! By this time you're wondering what about contrast and sharpness. They are all perfect too. I've made test exposures on Plus-X and Tri-X and gone as much as four f/stops over and under, and still got decent results. At normal to plus one and minus one f/stop the shadow detail and contrast was excellent. This is the perfect developer for astrophotography.

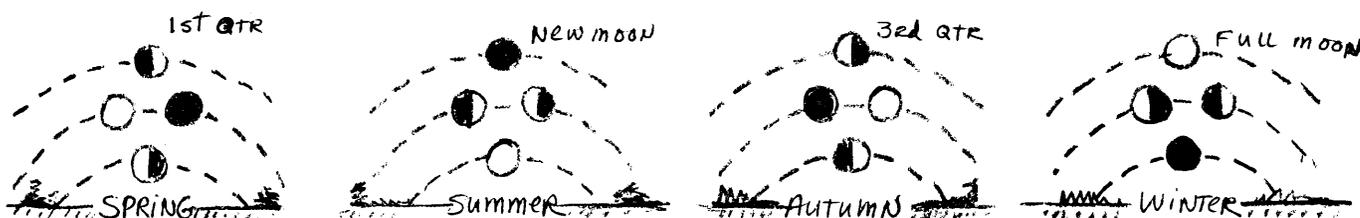
And now for the drawbacks. The instructions are relatively complex, but nothing you can't handle if you've ever collimated a reflector before. Also, every film speed combo (such as Tri-X at 1200, ie 1600, ie 2400, ie 6400) has a different temperature (from 86° to 92°) and developer ratio. A little practice is all it takes to get them right though. To save space, I have left out some important facts, but it you are really interested just ask me. This is the miracle we have been waiting for, so if you get a chance to use some, by all means experiment with it. You'll be amazed at a dream come true!

Scott Bailey
LAS Junior Member and
Pres. of Riverside High
School Astronomy Club

Ed. Note: We'd be interested in anyone else's experiences with this developer.

MOON DANCE

Here's a gee whiz obvious observation that seems to surprise a lot of folks, even those who've spent time at the ocean and thought they had the Moon's phases all figured out. I didn't see it myself till I lived in a cirque deep enough that I didn't see the Sun from November to February or the full Moon all summer. Namely, the Moon, in its monthly passage along the ecliptic does the same up-and-down dance in the sky (monthly) that the Sun does (yearly) and different phases are highest at different times of the year.



...Which is another reason (besides the whiteness of the snow) that full Moon nights in winter are so bright and summer nighttime hikes under the full Moon don't go so well in thick woods. The effect (18° to 64° above the horizon at my latitude) is every bit as pronounced as the seasonal Sun changes.

Excerpted from "Coevolution Quarterly" Spring 1981

A LITTLE ON EYEPIECE SELECTION FOR
PERSONAL OBSERVING WITH NOT TOO MUCH THOUGHT TOWARD
SCIENTIFIC VALUE

O. K. Janet has your three months worth of variable star observations. Walter just received your 75 drawings of Jupiter and Saturn, John Bortle's hands are wrapped around your latest comet results, and Walter Scott is opening his mail with your notes on last month's Deep Sky Wonders. Now it's time to do something for yourself. Now it's time to use your telescope simply to leave the Earth and immerse yourself into the wonders of the night sky.

One thing that can help you to do this is your choice of an eyepiece. My favorite at this time is the 20mm Erfle and I think you should give it a try too. You don't have one? Well neither do I. But ... one of the advantages of belonging to an astronomy club is that somebody almost always has anything you can think of. Putting this premise to the test, I found that, sure enough, someone actually does have such an eyepiece. At each observing session I stake my territorial rights around it (as President I can do that) and never tire of any view it gives me. On my 6" f/5 the 20mm Erfle gives a 1.7 degree field at 38x and the window-like scene of the Sagittarius and Scutum and Aquila star clouds can be lingered over all night. The 20mm with a barlow lens is a combination that's hard to beat. With the power of a 10mm and the ease of viewing of a 20mm, you can fall right into M11 or M17. M8 fills the field with sparkling stars and wall-to-wall nebulosity.

There are many fine eyepieces available to our club members and I use each one of them from time to time, but when I want to lose myself on a private trip to some far-off corner of the galaxy, the 20mm Erfle is just the ticket.

Joe Kamichitis

MEMBER NEWS

Bob Brauer has graduated from Princeton, is soon to be married and has gone off to New Mexico and California, hoping to get a job related to astronomy. He'll be looking up Ken Mason.

Scott Petill and Bobby Nicolais have both won prizes in the Scranton Times Summer Photo Contest. Scott just graduated from Central, and Bobby, from Dunmore High School, where he was student body president.

Debbie Holmes spent some time in Arizona this summer and had the chance to visit Kitt Peak. We're all looking forward to her pictures.

Jo-Ann Pluciennik was off to Alaska again. This time, instead of just visiting Fairbanks, she flew to Nome and Kotzebue. At Kotzebue she was thirty miles above the Arctic Circle and so got her chance to see the midnight sun.

Bill Speare is back from another successful solar eclipse trip and has been heard to mutter something about Indonesia in '84. To look at Bill you'd never suspect he was an eclipse freak.

The LAS was represented at Stellefane this year by Claude and Alice Fannucci, Joe Kamichitis, Bill and Karen Mecca, and Jo-Ann Pluciennik. Two good, clear nights, a slight aurora, more telescopes than ever, including a 22" f/7 and optical judging for the second straight year highlighted Stellefane.

At Kutztown, we had a varied representation, with John and Dee Sabia being there four days, Debbie Holmes, 2 days, and Dr. Frank Murray, Joe Kamichitis

and Jo-Ann Pluciennik just making it down for the Saturday sessions. Our big news for some was that the LAS has to drop league membership for now.

John Koshinski, one of our junior vice presidents, has graduated from high school, and so is a junior no longer. John will be going to an electronics trade school in Allentown, and will be contacting LVAAS. He hopes to get to use their Pulpit Rock observatories.

NEW MEMBERS

Dr. Frank Murray, Route 2 100 Junslea Lane, Moscow, PA 18444

Robert Smith & David Smith, P. O. Box 235, Hawley, PA 18428

Brain Thomas, 1807 Clearview Street, Scranton, PA 18508 347-5925

Mark Winieski, 809 Delaware Street, Scranton, PA 18509 347-8498

Dr. Bruce Berryman, Dept. of Env. Sci., Wilkes College, Wilkes Barre, PA
18703 824-4651

New Address

John & Dee Sabia, 1112 Fairview Road, Clarks Summit, PA 18411 586-0789

GLEANINGS FOR ATM^S
by
Robert Cox Harrington

Ed. Note: At the Kutztown AL National Convention, the ALPO workshops conflicted with the telescope making workshop, luckily I knew I had some tips I'd picked up at the Great Lakes Regional AL Convention in 1977, so I could concentrate on perfecting my observational skills of solar system bodies. After only three days of extensive rummaging around in what I refer to as my files, I came up with these.

Low Cost Abrasives for Mirror Grinding

In an attempt to find lower cost abrasives, several amateur astronomy clubs in southern Michigan have evaluated the performance of numerous common household compounds when used as mirror grinding abrasives. As a result of this coordinated effort, they have provided us with the following data and recommendations.

Granulated Sugar: This is a fairly good substitute for #80 abrasive.

Domino seemed to be the best, but Pioneer performed quite well.

There are some precautions however. Be sure that you are not using Domino Dots cubes; one member of the DOAA inadvertently used cubes, and ground huge pits into his mirror before he knew it. Also, another member walked around the barrel for eight weeks, and couldn't figure out why the grinding was going so slow. It turns out that he was using Confectioners XX sugar.

Salt: Salt was found to be quite good for the medium grinding stages, due to its very uniform particle size. One other advantage is that it comes with a shaker-top container. Also, it was found that mirror grinding could be conducted outside in winter without freezing the wet. Thus, no longer does the grinding have to be done indoors in the winter.

Baking Powder: This is an excellent grit for finish grinding. However, great care must be exercised to remove all flour, if flour has been used in any previous grinding stages. One member of the KAS, who started grinding with baking powder without removing the flour, encountered significant difficulty. This difficulty is that, when left overnight in a warm basement, the mirror was actually observed to rise. However, this may be ideal for those ATM^S who have a thin blank, and would like it a little thicker. One word of warning should be mentioned; caution must be used not to bump the barrel during the

rising process. One member of the GRAA accidentally kicked his barrel and the center of his mirror fell! The DOAA, which is of course research oriented, now has a research project in this area, with the goal of trying to use this phenomenon to make low f-ratio mirrors without grinding. This requires a very controlled kick. Preliminary data indicate the following:

<u>SHOE</u>	<u>KICK INTENSITY</u>	<u>f-RATIO ACHIEVED</u>
Hush Puppies	Light	f 5.0
Thom McCann (9C)	Medium	f 4.0
Florsheim (10B)	Medium	f 3.0
8-Buckle Galoshes	Hard	f 2.0

A turned-down edge and some dog-bisquiting was observed after a hard kick with 8-buckle galoshes.

OBSERVATORY ASIDES

There's been some beautiful summer nights, but somehow they seldom coincide with planned activities. Around here it didn't clear for the Perseids no matter how hard the weather man tried to publicize them. Instead it was clearest for the full moon and three days after that.

At the one clear-day cookout (the July one, August was really dreary) it still hazed up so bad that transparency was about $+1\frac{1}{2}$. We were settling for some barely locatable doublestars (like Albireo!) when we were treated to the sight of a vertically dropping -8 or so meteor. We've seen quite a few fireballs this summer, but this one was made even more attractive by the element of surprise.

At the Stellafane "tent talks" there were two fascinating time-lapse movies. One was of the lunar eclipse in July. While clouds did add a note of suspense to our observations of the color tinges on the moon, we could have done with a speeded up view such as was shown by Dave Huestis of R. I. to keep the public's interest.

The other movie was of the great aurora spectacular in April 12-13. This was not the one I reported in our April-May issue. That occurred on April 21-22, and was a neat little spiky display showing a bright red ray in Auriga, but nothing like the fish-eye lens, time-lapse movie we saw. The film was excellent, especially the dramatic red coronal burst. The day after the big display I grumbled to hear of it on the radio, since it was cloudy here. Since then I've been haunted by rave reports of it everywhere, even in such places as "Cosmic Echos" from St. Augustine, Fla., and the "Mount Washington Observatory News Bulletin," a weather observatory in N. H. Now I know they didn't exaggerate.

The LAS received a letter of thanks from Sanford Shelton, Park Superintendent of Promised Land State Park, that included an invitation to return next year. He writes, "We have been receiving many favorable reports from the public who attended your program. In spite of the hazy conditions that developed later in the evening, all felt the program was excellent."

Looking back over this article, it's understandable that when I finally did get quoted in "Sky & Telescope" (Sept. 1981, p. 265; if you don't get the magazine, call me and I'll bring my copy over) it isn't for suspecting a new meteor radiant or noting 19 Pleiades with the naked eye, but for a report on our Astronomy Day weather.

Jo-Ann Pluciennik

CORRECTION

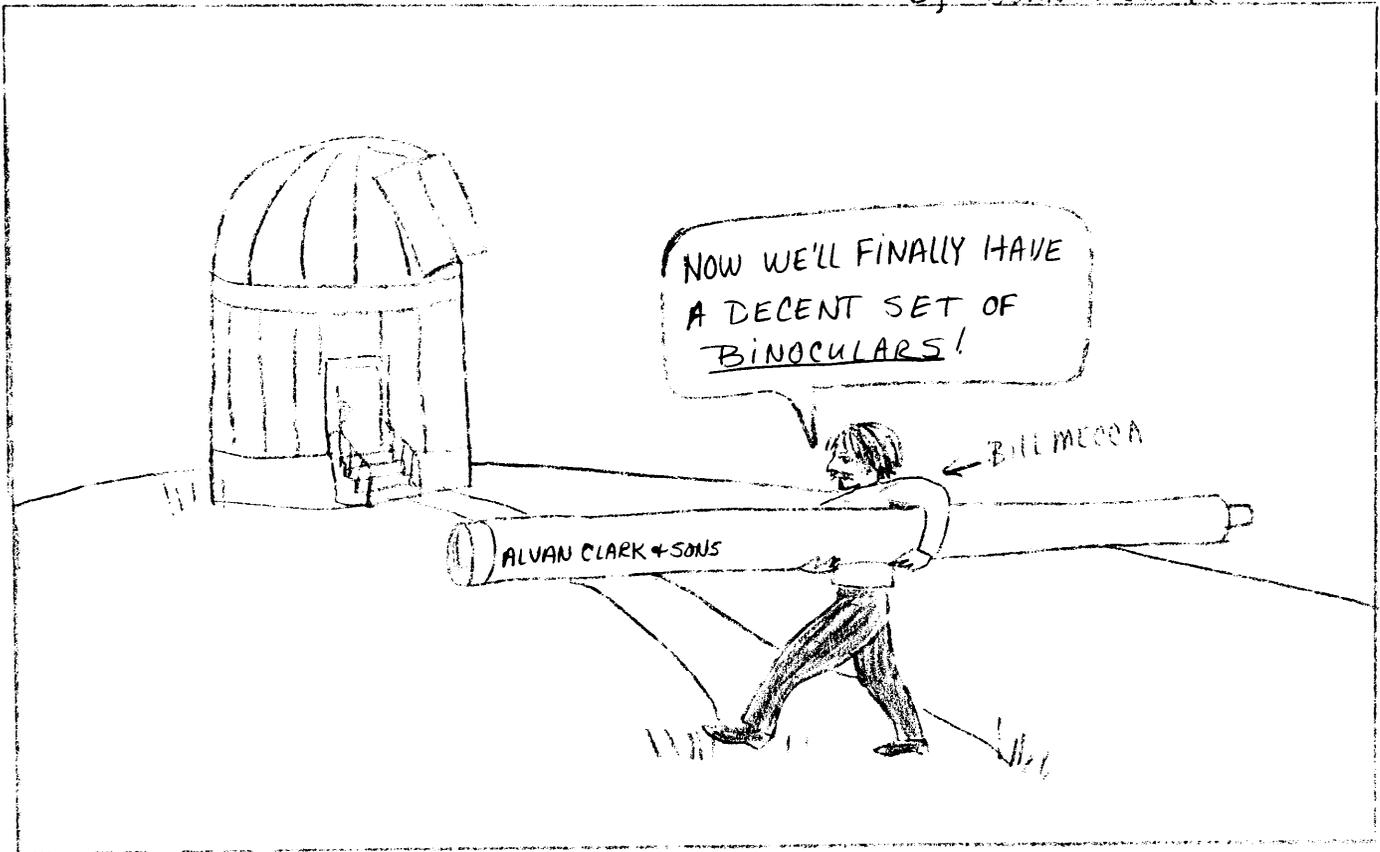
About seven weeks ago at the July 11th meeting, I informed the 25 or 30 members present that the lunar eclipse of July 16-17 would be at mid-point at 1:47am EDT. This time was, of course, incorrect; the correct time of mid-eclipse was in fact 12:47 am. This blatant error on my part is explained by the fact that I was born in a different dimension and my mind was in New

Brunswick at the time. To those people who set their alarms for 1:47 and got up expecting to watch the eclipse from mid-point on but, instead, found it to be nearing its end, I humbly apologise. To atone for any inconvenience or embarrassment this error may have caused, I have rescheduled another lunar eclipse for next summer and this time it will be a total eclipse.

Joe Kamichitis
President

"KOSEK'S KORNER"

By John Kosek



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Articles, cartoons, news items may be sent to:

Jo-Ann Pluciennik, Editor
313 East Elm Street
Scranton, PA 18505

Staff: Diane Musewicz
Joe Kamichitis