

THE NHAS OBSERVER



Newsletter of the New Hampshire Astronomical Society

Volume 2001 No. 9

"All the news that fits in print"

September 2001

The Best and The Worst

At the Friday Sept. 21st club meeting at St. Anselm's College in Goffstown, NHAS Public Observing Coordinator, **Ed Ting**, will present a lighthearted look at astronomy equipment and the accompanying buying frenzy, gleaned from the pages and letters to his website www.scopereviews.com.

Ed's website has been visited over one million times, so it has to have something people want. His talk should prove to be entertaining, informative, and sure to keep your interest from start to finish.

President's Message

The events of last week have left all of us in a somber mood. One small way we can help is to continue our commitment to sharing the night sky with our neighbors, to pass the knowledge that we live together on but a small island traveling through the immenseness of space, that regardless of our differences we are but one race, all made from the same stuff, the stuff of the stars.

So as the school year begins, I hope I can count on everyone's continuing support. We have the opportunity to come together with the children of our community and in a positive way share something important, the wonder we have for the night sky. Lets take advantage of it.

★ John Pappas

Stellafane Wrap Up

On August 17, several NHASers trekked to Stellafane for the annual convention. It rained on Friday but later cleared. It was fairly cool at night. Observing was ok but not great. It got much better at 3 a.m.

Saturday was hotter and drier but



eventually became overcast. Lunch was wonderful and so was the watermelon.



(Photos courtesy of Steve Stefanik)

John Dobson had a question-and-answer session for children just before the shadowgram by David Levy.

Derrick Pitts from Philadelphia was the keynote speaker. He discussed an idea that has been used successfully. It involved presenting an astronomy walkthrough on the radio while astronomy clubs helped the public find things.

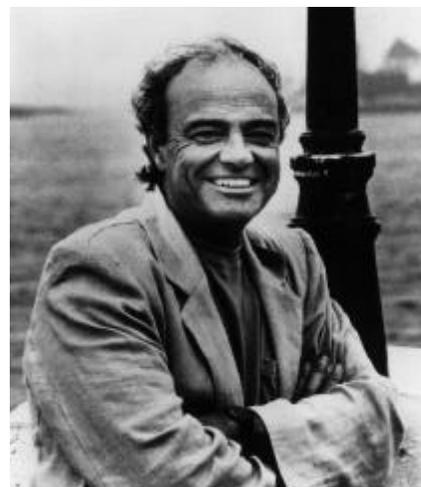
★ Larry Lopez

Chet Raymo at CMP

Special to the NHAS Observer

Sky watchers can look forward to a special treat on Saturday, October 27, at 3:30 p.m. at the Christa McAuliffe Planetarium in Concord, NH.

Astronomer, award-winning science writer, and novelist, **Chet Raymo** will speak about "Astronomy and the Human Spirit: Becoming Intimate with the Infinite."



A professor at Stonehill College (Mass.), Professor Raymo's column "Science Musings" appears weekly in the *Boston Globe*. His latest book, *An Intimate Look at the Night Sky*, is inspiring for serious astronomers, but also serves as a perfect introduction for amateur stargazers. In it, Professor Raymo combines practical information with intellectually stimulating writing, discussing music and literature along with instruction on the life and death of stars. The book's twenty-four star maps include instructions on what may be seen in the sky, and what might be imagined about the universe in the course of a night's vigil.

(Cont'd. on p. 2)

Feature Story

Astrophoto Film Tests Page 2

Chet Raymo, cont'd. from p. 1

In addition to instructional books on astronomy, Raymo has also written books that explain and illustrate his naturalist's stance, such as *Skeptics and True Believers: The Exhilarating Connection between Science and Religion*, *Honey from Stone*, *The Soul of Night*, and others. In addition, his novel, *The Dork of Cork*, was made into a movie, *Frankie Starlight* starring Gabriel Byrne and Matt Dillon.

Sponsors of this event, Frontiers of Knowledge, a Concord non-profit lecture series, and Christa McAuliffe Planetarium, invite you to join us for Professor Raymo's presentation and for a short reception following his talk.

Admission is free, but seating is limited. Kindly call the Planetarium for reservations at 271-7831. Directions: Route 93 to Concord Exit 15E.

★ Janet Ward, Frontiers of Knowledge

Public Observing Highlights

The CMP skywatch on Sept. 7th was jammed – we estimated over 100 people attended. What's more, the crowd had us showing them objects in the sky until after 11 p.m. As an experiment, I brought one of **Howie Glatter's** Skypointers, which projects a bright beam of green light into the sky. This was a great teaching tool as I taught onlookers how to navigate their way through the summer sky. Not once did I miss not having a telescope!

I attended the Black Forest Star Party on Sept 14-16 so I missed the Coffee House. My flight was still showing that it was on schedule, but I decided not to take chances with my tight connections so I rented a car and drove the 8 hours instead. I highly recommend this star party, nestled high atop a mountain near Coudersport, PA. M2, M3, and M92 were naked eye objects, and I got great views of the Lagoon even while it was only a few degrees above the horizon.

My keynote speech began at 5:30 p.m., after a moment of silence on behalf of the recent tragedies [terrorist attacks on Sept. 11]. I was very warmly received at the conclusion of the talk. One memorable comment came from a young woman who was grateful that I took her mind off current events, even if it was only for 45 minutes.

I spent most of the evening bothering Rick Singmaster (he of Starmaster Telescopes), looking through his 11-in., 20-in., and 24-in. Dobsonians.

★ Ed Ting

At the CMP Skywatch on Friday night, Sept. 7, there were about 15-20 NHAS scopes and a great many visitors. A few visitors brought scopes and asked for help setting up and using them. Most notable were **Rich DeMidio's** 18-inch Obsession reflector and Ed Ting's new toy, a high energy green laser pen.

The sky was so hazy that 4th mag. stars were a challenge to see. In my little 4-inch refractor, M13 was a bright blob flanked by two field stars. In the 18-inch you could see filaments of stars extending from the cluster. Wow! Ed's new expensive toy was a \$235 item he got for his telescope review web site. It produced a long, thin, green line extending into space, appearing to touch the stars. A great skywatch tool!

By 11 p.m. the visitors were all gone and the Moon was just cresting the eastern campus building (and someone decided to turn on all the inside lights so it looked like a Christmas display!). As I watched the Moon with a 40 mm Plossl, I noticed a mountain just inside the north edge of the terminator and studied it. In the course of about 15 minutes, the terminator moved enough so the mountain slowly faded out. I didn't realize that the terminator moved that quickly. It was definitely more engrossing than watching time fly.

While I was observing this, I saw three birds – several minutes apart – fly across the moon. (You know what I mean!) They looked like pigeons, but why were they flying at night?

★ Michael Frascinella

YFOS News

In August, we installed several GFI outlets on the observatory. On Sept. 8, **Paul Norris** and **John Segedy** his two girls (5 and 7) helped out. By the time I arrived, John had mowed the lawn. (I was late, having hurt my knee playing volleyball at a team building meeting, AKA a BBQ, yesterday).

We took the door down and the two girls sanded and polyurethaned it.

Not to be out done, I sanded down the warming room table top and Paul and I

gave it one coat of poly and decided to let it harden for a while. I also trailered my new lawn tractor to YFOS and mowed anything that needed cutting.

Bob Sletten installed three breakers and labeled them and the warming room breakers. He noted some wiring problems in the warming room like cables not tacked down.

I loaded *The Sky* on the PC and put a copy of the John Glenn book in the observatory as well as John Blackwell's donated star maps.

★ Larry Lopez

Astrophoto Film Tests

Over the years I have experimented with taking photographs of deep sky objects. One of the biggest problems that I faced was the use of the wrong emulsion for capturing my images.

I first started doing serious astrophotography in 1986, using mostly slide film. However, there weren't any *good* slide films available. Fuji used to make an excellent film for deep sky use called Fujichrome 400. In 1985, they changed their emulsion and the Fujichrome quickly disappeared from astrophotographers gadget bags.

The progress of high-speed films over the years was nothing short of amazing. I recall when ISO 400 was fast. By the mid-80s many films were rated in the thousands. In the late 80s, Konica released its super emulsion Konica SR-V with an ISO rating of 3200! It was incredibly fast but also very grainy. It was a good film for amateurs to cut their teeth on and gave good results. As best I can tell, Konica no longer sells this film. In the early 1990s, Fuji released an 800-speed emulsion that was pretty good except it really lacked good red sensitivity. As Fuji refined this emulsion, the red sensitivity dropped even further. Still, the Fuji 800 was an excellent film when Comet Hyakutake came around.

Kodak stepped up to the plate 1996, when they released the answer to most amateurs' prayers. Kodak PJM was an ISO 640 film that was perfect. It had fine grain, good sensitivity to red light, had high speed (ISO 640), and a very low reciprocity failure. All was right with the world.

(Cont'd. on p. 3)

Film Tests, cont'd. from p. 2

Unfortunately, PJM did not sell well to the targeted photographers and photojournalists. As a result, Kodak repackaged its PJM as PJ400. The films emulsion had not changed and it still retained those characteristics that made the PJM so desirable. Amateurs should have taken this as a warning because shortly thereafter Kodak discontinued the PJ400 to make room for the Supra and Porta films. Kodak retained the emulsion for a short time as a special film called "Law Enforcement 400"



(LE400). This too has been discontinued but is still available through select outlets.

I decided to test two films that were suggested to me by Jerry Lodigruss's website (<http://www.astropix.com/>). I still retained several rolls of Kodak PJM (the LE400 was difficult to find and I did not have a roll at the time of the test) and felt this would be a good comparison for the two. These films, Konica 800 and Kodak Supra 400, are pretty easy to obtain. I tested each by shooting exposures of one of my favorite deep sky objects, the North American Nebula in Cygnus. Experience showed that I should be able to record the nebula and its surroundings with a 16-minute exposure using an f/2.8 lens with ISO 400 film. So, I took an 8-minute with the Konica film and a 16-minute with the Supra film. The comparison shot with the PJM was shot for 12 minutes (equivalent for ISO 600).

The results of my tests were pretty conclusive. As expected, the PJM showed the North American Nebula, the Pelican Nebula, as well as the curve just south of the two. When I examined the Konica 800, I was unimpressed. The North American was recorded but

not very well and the Pelican was very faint. Additionally, the Konica's resolution was noticeably poorer than the PJM and Supra. Clearly the Konica was not very good. I was much happier with Kodak's entry. The Supra 400 recorded the same nebulosity as the PJM but not quite as densely. The grain was smooth and even more impressive is that the 8-minute exposure with this film outperformed the Konica 800 by recording the Pelican with more detail (the scanned images below are a fair representation of the negatives).

The Supra is fairly easy to get at any professional shop, but the PJM is no longer available. As stated previously, the LE400 is the same emulsion and can be found on the Internet (<http://www.mardelonline.com> is one site you can check out). An LE800 film is also available for about 20% more. This film is sold in 5-roll packs, 12- or 24-exposures. The 12-exposure rolls are an ideal size for me. Since I usually do not shoot more than 3-6 exposures in one night, I can develop the roll the next day without wasting much film.

My evaluation can use more refinement but this quick and dirty test revealed that one should not waste much effort on the Konica film and the Supra film is a good second choice for the deep sky enthusiast who can not obtain the LE400. As best I can tell the Supra is a professional version of the standard Royal Gold 400 film. If one were in a hurry, this film could be obtained at any

film store making this the third choice if the other two are unavailable.

To summarize, the best negative films for astrophotography in order of desirability are:

- 1) Kodak Law Enforcement 400 (LE400)
- 2) Kodak Supra 400
- 3) Kodak Royal Gold 400

For slide films, I have found the Kodak films to be far superior to the Fuji. Fujichrome tends to end up with a green background even in a dark sky.

Jerry Lodigruss swears by the Ektachrome 200. I have enjoyed some success using this film but not with a focal ratio greater than 2.8. Ektachrome 400 is very good as well but lacks in the red end of the spectrum. In both films, the

background is usually a black or bluish color, which beats the Fujichrome's green shade. If you are going to shoot slides, either of these films will be adequate, but do not expect to record red emission nebula with the Ektachrome films.

Notice that the list is devoid of Fuji products. For some reason, Fuji has vacated that market leaving Kodak the sole owner of this small niche market. Perhaps word will eventually reach Fuji and a new film will reach the market. We can only hope for an expanded list of films for use.

★ Tim Printy

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Looking Back at Last Month

In my absence last month, the August meeting minutes may have been recorded by one or more attendees.

At press time it appears that the minutes cannot be found, so I apologize for that.

Evening Program.

John Blackwell was the featured speaker and his topic was "Home-Brewed Amateur Spectroscopy."



Photo by Bob Sletten

John gave a live demonstration of the spectrum of hydrogen. Sample spectra were derived from his Northwood Ridge Observatory using telescopes ranging in size from 106 mm to 8 in., a Starlight Xpress MX-5c CCD imager, an SBIG ST-7, and a Rainbow Optics transmission grating. Most impressive!

★ Michael Frascinella

NHASTRO Web

Recent updates include the Newsletter page, which now offers all the newsletters from 2001. I'm slowing enhancing other parts of the site.

★ Barbara O'Connell

ATM True Grit

The meeting on Sunday August 26 was canceled but a meeting was held on Sept. 9. Attendees included:

Ed Dougherty, Don Ware, Paul Norris, Jay Dowling, Dan Smoody.

Jay Dowling mentioned this site:

<http://www.surplussed.com>

It seems to have a lot of interesting optical surplus items. Jay also brought information about a very sensitive CCD cameras, which I've placed on the web:

<http://www.mv.com/users/lopez/camera/1>

<http://www.mv.com/users/lopez/camera/2>

Paul finished up another grit, Dan redid his pitch lap. Larry's pitch lap needs redoing too. You can't store pitch lap with mirrors for long – the pitch flows!

Next meetings are September 23, October 7, October 21, November 4

We will continue meetings into winter for polishing only.

★ Larry Lopez

The Bottom Line

As of August 28, membership has risen to 154, which is a little more than 12 squared, whatever that implies.

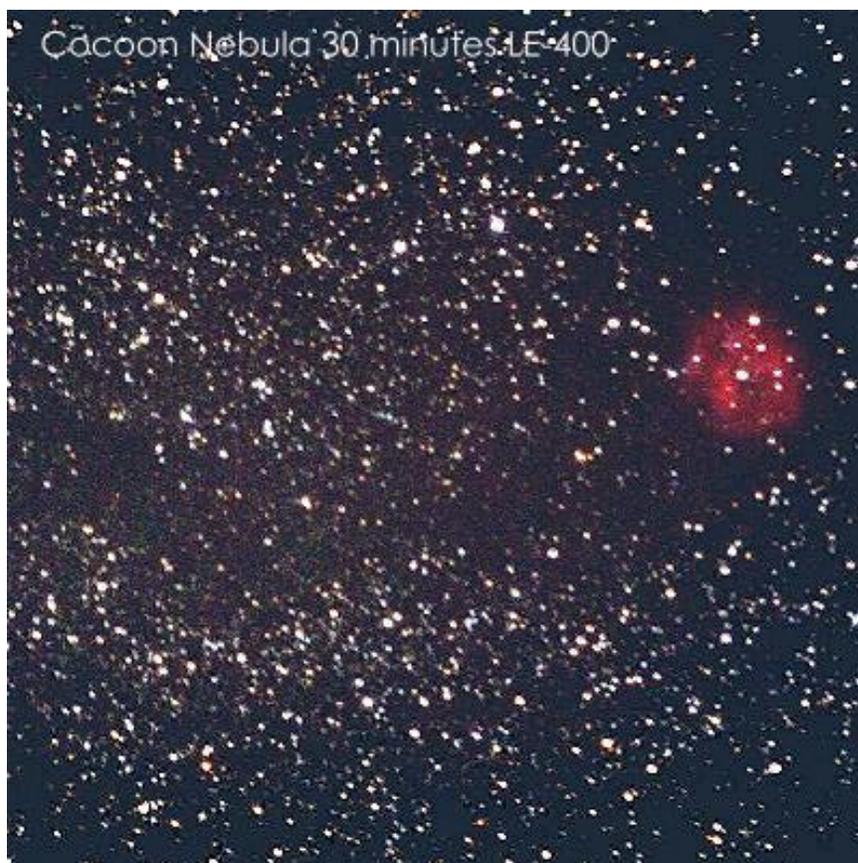
★ Jim Warena

Astrophoto Film Tests

This late submission photograph (below) from Tim Printy shows the Cocoon Nebula using Kodak LE400 film and an 8-in. f/5 scope. Tim stated that the red response was excellent.

In Memory of the Day of Infamy

Sept. 11, 2001



DEADLINE, OCT. 2001 ISSUE: 4 PM OCT. 5

E-mail articles to the Editor.
Phone if you have a late submission.

CHANGE OF ADDRESS

Notify the Treasurer. Include your full name and new street address.

If changing an e-mail address, specify whether you want to add, modify, or delete an e-mail address.

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New Hampshire Astronomical Society
P.O. Box 1001
Manchester, NH 03105-1001

NHAS Upcoming Events

Worst and Best, Sept. 21, St. Anselm

Event	Date	Time	Location
Sept. Meeting	Sept. 21	7:30 p.m.	St. Anselm's College, Goffstown, NH
ATM Meeting	Sept. 23	1 p.m.?	Lopez Barn, New Boston, NH
Photo Comm.	TBA	TBA	YFOS site
Rundlett School Skywatch	Oct. 4	7:00 p.m.	Rundlett Middle School, Concord, NH
CMP Skywatch	Oct. 5	7:00 p.m.	Planetarium, Concord, NH
October meeting	Oct. 12	7:30 p.m.	Planetarium, Concord, NH
Reed's Ferry Skywatch	Oct. 17	7:00 p.m.	Reed's Ferry School, Merrimack, NH
Coffee House	Oct. 19	dusk	YFOS site