



SJAA EPHEMERIS

FPOA Honors SJAA With Free Food At The Peak d'editor

Knowing we are very competent eaters, the FPOA Board Of Directors decided at a recent meeting to declare September 18 as San Jose Astronomical Association Appreciation Night. I shall resist the desire to append the acronym.

This basically means they're going to cook up some hamburgers, hot dogs, and other goodies that evening, followed by some time for everyone to get some looks through the 30-inch Challenger that we helped restore (with money and, in many cases, with sweat equity as well).

It will be a nice evening with virtually no moon, and many of us may wish to make a weekend of it, since the next night is also a terrific observing opportunity.

There is, of course, no reason we can't take our own scopes up too.

Show up as soon as you can after 6:30 pm or so; this may be a little difficult for some folks due to work and the commute, but it promises to be a good time and we'll try to keep a bun warm for you if you're a little late.

It's not known at this time if there will be any formal ceremony, but it's hard to imagine anyone actually wanting one...

And whether you make it there or not, we all should be proud of our contribution as a club, and delighted to be worthy of the appreciation of one of the most selfless organizations in amateur astronomy.

As a personal note, I'd like to encourage all SJAA members to join FPOA as well. Fremont Peak and The Challenger are wonderful assets.

SJAA Activities Calendar

September

- 11 Houge star party. Sunset 7:22 pm, 60% moonrise 11:23 am.
- 11 First night of SJAA Yosemite Weekend (also 12th).
- 12 Beginning Astronomy class "Astrophotography" with John Gleason. Houge Park, 8 pm.
- 18 FPOA's "SJAA Appreciation Night" at The Peak. About 6-6:30 pm on.
- 19 Star party at Fremont Peak, Coe. Sunset 7:08 pm, no moon.

October

- 2 Houge park star party. Sunset 6:50 pm, 90% moonset 4:27 am.
- 3 General Meeting at Houge Park, 8 pm. Renowned "meteorite" Peter Jenniskens will speak on observing the Leonids. Open board meeting 6:30 pm.
- 10 Beginning Astronomy class "CCD Imaging" with Kevin Medlock. Houge Park, 8 pm.
- 16 Houge Park star party. Sunset 6:29 pm, 5% moonrise 5:37 am.
- 17 Star parties at Fremont Peak, Coe. Sunset 6:27 pm, no moon.
- 24 Fremont Peak. Sunset 6:18 pm, 19% moonset 9:27 pm.
- 25 Daylight Squandering Time ends. Set clock back an hour.
- 30 Houge star party. Sunset 5:12 pm, 78% moonset 2:13 am.
- 31 Halloween. Set up on driveway. Show Moon next to Jupiter.

24 hour News and Information:
SJAA Hotline: 408-559-1221
Web Address: <http://www.seds.org/billa/sjaa/sjaa.html>

PLEASE NOTE THAT SJAA INSURANCE COVERS ONLY SJAA MEMBERS AT SJAA SPONSORED EVENTS.

Loaner Program Plans

Possibly the most significant activity of SJAA is our Loaner Program. With that in mind, the board voted to approve improvements and expansions under the direction of Mike Koop, the current administrator.

We have two objectives: to upgrade the current inventory through repair and the inclusion of a star chart and three appropriate eyepieces with each scope, and the acquisition of new telescopes to round out the program.

On the current wish list are a sizeable refractor of good quality, a CCD setup, an 8" LX-200, and a substantial truss-tube dob.

With this in mind, we will be instituting a series of fund-raising activities to finance these improvements, and asking for help to rebuild the scopes.

Stay tuned ... it will be exciting!

Web Ephemeris Option

To minimize costs, we would like to remove those persons who do not read their paper Ephemeris from the postal mailing list.

This is not an attempt to convince anyone who likes getting a paper copy that they should give up that privilege; you paid for it, and you deserve it. But if you don't use it, why not just view the Ephemeris on the web?

If you would prefer to just view the web page (<http://www.seds.org/billa/sjaa/eph.html>) please email Treasurer and Listkeeper Bob Ellsberry (rellsberry@netgate.net) and let him know. He'll change your mailing status and you'll stop getting the Ephemeris in the mail.

Preliminary Minutes of the August 8 Meeting of the SJAA Board of Directors

Bill Arnett

The meeting was called to order 6:47pm at Houge Park. All directors were present (eventually).

The schedule of upcoming events was briefly discussed and approved without dissent.

The minutes of the previous meeting as sent by email were approved without dissent.

Not much has happened with respect to electronic delivery of the Ephemeris. Dave North will send a note to the SJAA mailing list. Hopefully, this will generate more response.

The 1999 calendar was discussed and a few changes made. The only real issue is the beginning astronomy class for which there is no teacher for next year. We decided to include it in the calendar anyway.

Rich Neushaeffer had commented by email that there are some newly planted trees near the observing area at Houge Park. But we weren't sure exactly which trees he was referring to.

There appear to be new ones at the north end of the area but they

don't appear to be even potentially difficult. The ones at the south end will require some more scrutiny.

We agreed that the newly created loaner scope acquisition fund should look into getting:
a computerized scope (preferably an LX200),
a truss tube Dob,
a CCD setup, and
a large refractor.

It was also noted that the existing loaner scopes will need some money to bring them up to their full potential. It was also suggested that we might start an "adopt a scope" program for more experienced members to take care of the loaner scopes. Mike will report on their detailed status as soon as possible.

A motion was made to authorize Mark Taylor to go ahead with the Astronomical Pocket Diary project based on the information which had been discussed previously via email.

Much heated discussion ensued after Bill Arnett noticed that there were

some non-astronomical entries in the calendar.

Mark agreed to ask the APD publisher to but we are not yet sure that it's possible or if it can be done without adversely affecting the production cost.

If the price is not significantly affected the anniversary items will be ordered removed; otherwise, we will simply order them with the standard format.

Eight directors voted "Yes" anyway; Bill O'Shaughnessy voted "No" (because of the non-astro entries).

The motion to adjourn passed unanimously at 7:30.

Editor's Note: at an earlier meeting, Secretary Jim Van Nuland thought it best we point out we will be selling the calendars for more than we pay; previously, SJAA sales items have been at cost. This is a change in policy, but members should understand the "profit" goes to the loaner program.

July Board Meeting Notes

Bill Arnett

The meeting was called to order 6:40 pm at Houge Park. All directors were present (eventually) except Bill O (who was excused).

Much was discussed, little actual action taken.

The only formal action was to approve sending our \$10 fee to the State; unsurprisingly, that motion carries without dissent.

We discussed some possibilities with respect to the distribution of the Ephemeris. The current bulk mail arrangement is awkward and slow. It appears that if we can get below 200 copies printed and mailed that we can save a little money even if we mail first class. (Editor's note: only as long as we constrain it to eight pages, if my

scale is correct). This may be possible if enough people elect to read it electronically. Dave North will investigate further.

The board also agreed with Dave's suggestion that we establish a fund for the purpose of acquiring some new and better equipment for the loaner program. Many ideas were kicked around.

Dave, Bill, Ed and Bob agreed to form a more detailed proposal.

Someone noticed that the Ephemeris (and the Web site) mention an Activities Committee comprised of Dave Smith and Bill O. As it seems to be completely inactive, we all agreed to disband this committee. But then we agreed with Jim that perhaps we

should give Dave and Bill a chance to speak before any action is taken.

Dave North suggested a business card that will help recruiting new members, that would have the hot line number and the URL for the club. Jack Zeiders offered to pay for the first batch if he also had design approval. Accepted by acclamation.

Jack Zeiders donated a slide projector. (\$155.44)

Ed reported that the idea of moving our C11 to Fremont Peak is going well. More details remained to be worked out be all agree in principle that it is a good idea. Ed will attend the next FPOA board meeting to move this along.

The Shallow Sky

Akkana Peck

Mercury is at its best in the morning at the end of August and beginning of September, when its disk will be approximately half lit (it then waxes to full phase by the end of the month). This will be the last chance until December to find Mercury in a dark sky.

ALPO Mercury observers report that the best way to observe Mercury is to find it before sunrise and then continue to follow it (ideally with an equatorial mount, though it can be done with a dobsonian) into the daylight sky after the sun rises. Observing Mercury during the daytime allows it to be seen high in the sky where the air is steadier and features can sometimes be observed on the small planet's surface.

Venus and Mars are also visible in the morning sky. On September 1, Mars passes near the M44, the Beehive cluster.

On the morning of September 6, if you're out watching the planets, pay at-

tention to the moon. At 4:10am PDT, it will have a penumbral eclipse. The dimming should be subtle but might be worth watching for. That night, the moon will occult Jupiter -- but only for observers in South America, alas.

Jupiter rises shortly after sunset, and is visible all night. It reaches opposition (a close opposition, about as close as the planet ever gets) on September 15. At his SJAA talk last month, ALPO Jupiter recorder Jose Olivarez discussed the merging, a few months ago, of two of Jupiter's white ovals. There's lots of detail to be seen on this planet!

Asteroids make close approaches with other celestial bodies twice this month. On September 12, at about 4am, the asteroid Ceres (a bit fainter than seventh magnitude) passes very near the moon; locations further north will see an occultation. Earlier in September, Ceres will be moving through

the Hyades. On September 22, the asteroid Pallas (eighth magnitude) passes about a degree away from Jupiter.

Saturn rises an hour or so after sunset and will be well placed for observing this month. If you haven't seen Saturn since last year, be sure to check it out -- the rings are much more open than they were when the haloed planet disappeared from our evening sky last year, and they make for a beautiful sight in any size telescope. Look for Cassini's division between the outer (A) and inner (B) rings, and the translucent C ("Crepe") ring inside the main B ring. With larger telescopes (8" or larger), see if you can see narrower gaps in the A ring.

Uranus and Neptune are still well placed for observation.

Pluto is in the western sky at sunset, and can still be seen, though with some difficulty.

Mooning

David North

We begin September just past first quarter; a mixed blessing. The Moon will be lowest in the sky at this time, but there is such a wealth! Hopefully the skies will be steady and you can pick around in the fields of dream...

We should be about at the point where the area around Copernicus is showing at its best; that will be the outstanding crater in the large dark area near the terminator. As a spectacle, it is unsurpassed because there is so little else around it, and because it is so young and well-formed. You'll also note, if you look closely, a crush of smaller craters in lines and patterns nearby. Most of these are "secondary impacts" or places where the stuff that blew out landed (this "stuff" is called "ejecta" by people who need to use more technical terms).

Near the end of the month you'll get the same view again, and sadly it will be no better placed in the sky. But there are compensations.

For one thing, the Moon will be at its highest on the 14th, which means people who get up to look at the third quarter Moon will be in fat city.

Libration followers are in for a dry month; there are no opportunities to be had, as they generally expose the dark side, or are at times when nothing in particular is showing at the poles.

A somewhat romantic note: this month's full Moon on the 6th is the Harvest Moon you've all heard about in that sappy song. It got the name because it dramatically extends the ability of the farmer to work late, bringing in the crops.

On the night of the 11th, Aldebaran and Ceres will be very close to the Moon around midnight (lowish in the sky) but we will miss the occultations, if I got the numbers right. It will, however, be traveling through a very rich star field, and there will be scads of lesser occultations around this time. Consult your astro program, or just go out and look; they'll be blinking on and off quite a bit.

Meteor Watch

The month literally opens with the Alpha Aurigids. This year the moon will be setting after midnight and thus provide dark skies as the radiant rises.

There may be a spectacular outburst early on, but the best chance is just about at sunset, when things are a bit low in the sky. But this is not an exact prediction, and the evening of August 31-September 1 may yield some spiffy boomers.

Rates are usually low for this shower except in some years for a period of about one hour on the morning of Aug. 31/September 1. You may see up to 50 shower members radiating from the "Pentagon" of Auriga.

Shower members seen during this peak of activity are often bright and leave long-lasting trains. Notable displays were seen in 1935, 1986 and 1994. The alpha Aurigids may be particles from comet Kiess, last seen in 1911.

1999 SJAA Events Calendar

Jim Van Nuland

	General Meeting	Astro Class	Houge Park Star Party	Dark-sky Star Parties
January	30	23	8,22	9, 16c
February	27	20	12,26	6e, 13c
March	27	6	12,26	13, 20c
April	24*	3	9,23	10, 17c
May	22	1	7,21=	8e, 15c
June	26	19	4,18	5e, 12c
July	24	17	9,23	10c
August	28	21	6,20	7, 14c
September	25	18	3,17	4, 11c
October	23	16+	1,15,29	2e, 9c, 30e
November	20	-	12	6c
December	18	-	3,17	4c, 11m

* Auction: April 24.

= Astronomy Day is May 22; we use May 21.

+ Final class for the year, or do one Nov.13.

STAR PARTY notations --

c Coe and Peak. Others Peak.

m Late moonset, up to 2 hours after astronomical dark.

e Early moonrise, 3 hours of dark but not 6.

OTHER dates and events --

DST start Apr.4

Easter Apr.4 (school vacations week before or after)

TAX day Apr.15, a Thursday

TSP May 9 - 16

RTMC May 28 - 31, full moon on Saturday.

Star-B-Q I would recommend

Aug.14 but who asked me??

DST ends Oct.31

GENERAL MEETINGS late this year; full moon except May. There will be a big jump from Dec.5 1998 to Jan.30 1999. This happens every 3 years or so. Transition to Jan 2000 will be smooth.

ASTRONOMY CLASS jumps around quite a bit. Priority was given to putting general meetings near full moons. Could do another on Nov.13. ASTRONOMY DAY is on May 22. We'll designate the previous day (1Q moon) when we will do a Houge public star party. COE: Coe dates are also official Peak dates.

Clear Skies! Jim.

Editor's Extras

David North

No doubt you will read Jane Houston's excellent coverage of the SJAA August meeting. Mr. Olivarez also briefly outlined the massive improvements being made to the Science Center, which should turn it into one of the premier west coast astronomical exhibitions. Especially notable was what he described as the most advanced planetarium in the western hemisphere (I hope I got that right...)

Just an unofficial and unsolicited comment on the mailing of the Ephemeris: if you like the paper copy, make sure you don't forgo it just to help out the club. We are not in any financial difficulty, nor do we expect any. The changes we are making are purely to try to speed up the delivery of the newsletter to those who rely on paper.

The advances we are trying to make in the loaner program are fundamental to the operation of our club. Our Loaner Program is moderately well-known as one of the finest in the nation, and we need to keep it that way. With that in mind, we are organizing a push to get the money and manpower to upgrade the current scopes, and add to the list with some real gems.

Of course we'll keep you posted. But if anyone wants to pitch in, the help will be more than appreciated. You can always contact me at timocharis@aol.com, or any other board member as listed on page 9.

Activities Through Other Clubs

TAC has reserved the Montebello site for every Wednesday, more or less indefinitely (weather permitting). It's a good idea to check TAC's web-page at <http://www.rahul.net/resource/TAC/> (mailing list archives) before going. There must be a permit holder present to use the facility. To get there, take Page Mill Road off 280 (or get to it via El Monte Road) until you're near the top. Montebello's sign will be visible on the left.

PAS opens Foothill Observatory for public viewing every clear Friday evening from 8:30 p.m. until 11:00 p.m. PAS operates a 16-inch reflector and a 6-inch refractor. Solar viewing is also held every clear Saturday morning from 10:00 a.m. until noon with a very nice filter setup. Both of these programs are outstanding, and all SJAA members are encouraged to check them out.

September

- 11 PAS General Meeting 7:30 pm at Foothill College
- 19 PAS Board Meeting 7:30 pm Foothill College Observatory

October

- 9 PAS General Meeting 7:30 pm at Foothill College
- 14 PAS Board Meeting 7:30 pm Foothill College Observatory

Owooooo!!

Jay Reynolds Freeman

On the evening of 6 August, 1998, while sitting in the illuminated living room a friend's house in Oakland, California, I happened to look at the nearly full Moon through a closed window -- a single sheet of glass -- and was struck by how much lunar detail was visible to the naked eye.

The experience reminded me of the conjecture that perhaps the most such detail is seen when bright lights are around, so that the observer's pupils are not nearly as wide as they become in deeper darkness: The idea is, that the eye as a whole is not very well corrected, so stopping it down is likely to improve imaging, as long as there is enough light, which there certainly is for the Moon's desert landscape under the noonday sun.

The night of the 7th provided better observing; some of the local group (that's amateur astronomers, not galaxies) were partying in a house in Los Gatos, California.

The full Moon was well-placed for observing from the back yard as it crossed the meridian, and I had brought Refractor Red so that I could double-check the locations and identities of anything I might see.

I did the checking after the fact, in the interest of eliminating bias, though I of course know the Moon's surface tolerably from memory.

The major maria were easy: I could see Mares Crisium, Nectaris, Fecunditatis, Tranquillitatis, Serenitatis, Frigoris, Imbrium, Nubium, and Humorum, as well as the much larger Oceanus Procellarum.

The region of Mares Vaporum and Insularum, and of Sinii Aestuum and Medii, was resolved enough to see these features as well, though I can never remember which is which. The great mountain masses of the Jura, Alps, Caucasus, and Apennines were easy albedo features.

And there was a lot of smaller detail. I could see Sinus Roris, (selenographic) west of the Jura and northwest of Oceanus Procellarum, and could sense Sinus Iridum as a dark indentation in the northern boundary of Mare Imbrium.

The bright albedo features of the inner ejecta blankets of craters Copernicus, Kepler, and Aristarchus, were easily visible. More difficult was a lower contrast blur that encompassed the merged ejecta blankets of Archimedes, Aristillus, and Autolycus.

*"....my teeth and
fingernails were in their
normal condition (I won't tell
you what that is), my ears
remained rounded, and I
found myself in possession
of no unexpected
patches of fur."*

The uplands between Mares Nubium and Humorum showed shape, though there are no named features there on the scale of what I was resolving. Perhaps the most difficult feature that I could hold steadily was Lacus Excellentiae, which many of you may not recognize because it is a new name, not accepted by the I.A.U. till 1976. It is a rather irregularly bounded patch of maria centered at about 36 S, 43 W, more or less containing the small crater Clausius.

Furthermore, I could see the flooded central basin of Grimaldi, just (Selenographic) west of the western edge of Oceanus Procellarum. The projected size of this dark patch is roughly 70 by 110 Km, and it is surrounded by brighter landscape, so as to stand out in high contrast.

I have logged Grimaldi as "sus-

pected" before, but on this night there was no doubt, I could keep the tiny dark fleck in sight for seconds at a time. (It is interesting that I could not hold it steadily -- with my 1x2 or 1x3 "telescope", seeing was certainly not a problem. This particular pop-in-and-out effect must stem from physiology of vision.)

Dawes's limit for a clear aperture of two or three millimeters is an arc-minute or somewhat less, though a magnification of only 1x might not be enough to show all such detail.

In round figures, the Moon is 30 arc-minutes and 3000 Km across, so in principle, the human eye might be able to see lunar features as tiny as 100 Km, or perhaps a bit less, the more so if they are high in contrast, like a bright spot against dark material or vice-versa.

I was observing with my glasses on, and they were clean. My current prescription is pretty good, and my vision usually corrects to about 20/15. What fun to push my observing skills to their limits without a telescope!

Yet in one way the experience was a failure. After nearly an hour of intense staring at the full Moon, my teeth and fingernails were in their normal condition (I won't tell you what that is), my ears remained rounded, and I found myself in possession of no unexpected patches of fur.

I don't believe my behavior had changed, either, yet I must suspend my own judgement on that matter -- after all, I might not know -- and my fellow party-goers were generally in a state where they were unlikely to have noticed any difference.



The Celestial Tourist Speaks

Jay Freeman

On Zoom Eyepieces:

I recently bought a used Vixen 8-24 mm zoom eyepiece, and was eager to try it out. I had used one in the Orion store in Cupertino before, and at the level of across-the-street views in daylight, it had seemed to be a decent eyepiece -- unlike all the other zoom units I have ever encountered. I was quite curious to see what it would do on astronomical eyepieces in the field. (I should say in passing that the new Tele Vue zoom unit appears identical to the Vixen in every way but cosmetics, though I have only handled the Tele Vue eyepiece, not observed with it.)

The other zoom units I have used have an actual field of view that remains constant as you change magnification. These units generally have a half-way reasonable apparent field of view at their shortest focal length, but as you dial back the magnification, the field of view shrinks in the same proportion, so that at the longest focal length you are looking at the exact same patch of sky, only shrunken in size, often so much so that you might be looking through a toilet paper tube, or almost through the "wrong end" of a telescope or binocular. One thing you might hope for in a zoom eyepiece is a wide field of view at low magnification, for finding things, but the early units do not provide this feature.

The Vixen does. Its apparent field of view is perhaps 55 or 60 degrees at 8 mm focal length, and has contracted by about 15 degrees by the time the focal length has been lengthened to its 24 mm maximum. That means that the actual field of view -- the diameter of the patch of sky in sight -- is approximately twice as large at 24 mm as at 8 mm. A 40 or 45 degree field of view at 24 mm focal length is reasonable for finding things in many amateur-sized telescopes -- even casual use of the finder got things into this field in my five-inch refractor.

How good were the images? I am not sure how many air/glass interfaces the Vixen zoom eyepiece has, but I expect at least six: The eyepiece seems to be a moving-Barlow variant of their fixed-Barlow Lanthanum series. It undoubtedly has more glare, and hence less contrast, than a unit with fewer surfaces, such as an Orthoscopic or Plossl. Yet the coatings were good, and the glare was not especially obvious, even on objects as bright as Jupiter.

Image quality appeared good all the way across the field, at all focal lengths. Star images were round most of the way across, but showed some degradation at the edges. Focus did not change across the field -- the eyepiece either has no field curvature, or happens to match whatever is in the Meade 5-inch. At 8 mm focal length, bright stars showed unremarkable tiny diffraction patterns, with nothing to indicate that the eyepiece viewing them was weird or peculiar. I'd say the eyepiece was working fine, at least at f/9.

The significance of any image defects is minimized because at the focal ratios of most of today's amateur telescopes, eyepieces in the range 8-24 mm are unlikely to be used for high-resolution work. An 8 mm eyepiece would give a magnification that might be called "high" on a classic f/16 refractor, but most of today's amateur telescopes have focal lengths of f/11 or shorter. For my 5-inch f/9 the 8 mm focal length gave 142x, a magnification that is merely loafing, when it comes to things like the Moon, planets and double stars. Even so, I split zeta Aqr at 142x with no trouble.

Using the eyepiece is fun. The focus changes a little as you zoom, not so much as to lose objects from out-of-focus, but enough so you must refocus for critical viewing. The effect is small enough not to be noticed as you twist the knob quickly, changing from the lowest magnification to the highest at the flick of a wrist. With an open cluster or a rich portion of the

Milky Way in sight, stars rush toward you in a blur and disappear across the edges of the field. "Quick, Chewie! The jump to lightspeed!" Whee!

Changing the magnification visibly makes clear something we all know but rarely see vividly: The sky appears much less brighter at high magnifications than at low. Varying the focal length from 24 to 8 mm reduces the illumination of the background by nine times. In the conditions that obtained before Moon set at Lick on July 31, in my f/9 refractor, that meant a striking difference between "a lot too bright" and "pretty dark".

One thing a change in background brightness may do is facilitate viewing diffuse objects, and as I had that thought, it occurred to me that at the focal ratios I usually observe with, the range 8-24 mm includes most of the eyepiece focal lengths I use for deep-sky observation. Thoroughly curious, I tried the zoom eyepiece on M8, M20, M31/32, M15, and M52.

Suddenly it was clear that I had an enormous and unexpected win in hand. Each of these objects showed different features and qualities at different magnifications in the range of the zoom, the range of focal lengths at which those features were well seen was narrow -- a few mm, and the difference between "well seen" and "poorly seen" was for the most part great. For example, the obscuring matter in M20 was best seen by a great deal, over a range of eyepiece focal lengths only one or two mm wide, as were the dark lanes in M31. Other focal lengths best showed the emission regions of M20 and M8.

Most people think of a zoom eyepiece as a relatively useless gadget, of which the best that can be said is that it is a rather expensive substitute for two or three conventional eyepieces.



continued on page 5, see Tourist

Olivarez On Jupiter

Jane Houston

What I was finding out was that the Vixen 8-24 mm zoom was usefully substituting for a run of six or eight conventional eyepieces that I not only did not have but did not even suspect I needed, was doing it at about half the cost of separate components, and was taking vastly less time and effort than fumbling in a box to switch eyepieces.

I am not going to make an unqualified recommendation on the basis of a single night's observing, but (1) I will for sure put the Vixen 8-24 mm zoom eyepiece into my eyepiece box, try it out on a great many more deep-sky objects, and report what I find, and (2) I have learned enough to recommend that any serious deep-sky observer seek out an opportunity to play with one of these devices, and see if it is as useful for you as it seems to be for me. The prospect is better views, at less cost, with less time at the eyepiece, and that sounds like a real win. Worries include the prospect that the Vixen zoom eyepiece may not work at shorter focal ratios, and that its merely moderate field width may hamper persons who do not use driven telescopes.

"I once spent several hours observing within 10 meters of a skunk.... I wish most humans were as good observing company."

On Skunks:

I once spent several hours observing within 10 meters of a skunk.

The animal was grubbing through a bank sloping up from the side of the dirt road where I had set up (Coulter Camp in Fremont Peak State Park, California). No one else was around. Now and then I glanced at the little creature, and it glanced at me, but each of us minded our own business and we got along fine. I wish most humans were as good observing company.

On Local Dwarves:

Low-surface-brightness dwarves are challenging but not impossible, at least, not all of them, though it does take dark sky. In good conditions, NGC 6822 is visible in a 7x50 binocular, and the Sculptor system in a 10x70. I have seen Leo I in apertures as small as 98 mm -- the problem is indeed getting Regulus and its glare out of the field of view. I found the Fornax dwarf in a 6-inch once, chased down Andromeda I, II, and III in friends' 12- and 14-inch Newtonians, and after much searching bagged Leo II in my C-14.

NGC 6822 was discovered visually in a 5-inch refractor. The observer was Barnard, so it is no disgrace not to see it with small aperture. I believe I recall reading that the first visual observation of the Sculptor system (which was discovered photographically) was made with a 4.25-inch Newtonian.

Why Observe the Deep Sky?

The only real answer to that question is "Because!". This is a hobby -- who needs a rational explanation?

There are even some pragmatic reasons why an amateur astronomer might pick deep-sky work over other sides of the hobby. For example, deep-sky observing does not require perfect seeing -- the air does not have to be perfectly steady to do it. It does not require as large and as perfect a telescope to look for deep-sky objects as to chase down fine and subtle lunar or planetary detail. There are lots more deep-sky objects than there are large moons and planets in the solar system, too, and they are available year 'round. As I write these words, planetary observers have just gone through several months during which no bright planets were well placed in the evening sky. Things like that don't happen with deep-sky objects.

Last night Jose Olivarez, from the Chabot Observatory and Science Center in Oakland was the speaker at the monthly SJAA meeting. What perfect timing, by Jove! We are all excited to again observe Jupiter!

I was fascinated by the CCD images taken by Donald Parker of Florida and Isao Miyazaki of Japan, the sketches by both Olivarez and others. Being a planet sketcher myself, these examples gave me a lot to think about, and room for improvement in my technique.

His description of the collision between the Great Red spot and one of the white ovals in the STZ was spellbinding, and captured in the video clip he brought. The changes to the STB white ovals, coming close together, merging, and then dimming was fascinating, and the dark blue spots, festoons, projections in the NTB gave me plenty to ponder.

He had a great handout of highlights of Activity on Jupiter in 1997, from an ALPO publication.

Mr. Olivarez also mentioned that a Planet Watch Workshop - Observing and Photographing the Planets which will be held at Chabot on September 25th and 26th. The cost is \$5.00 for the Friday Lecture (which includes observing Jupiter through the 20 inch refractor - yowza!, and the audience is limited to 90 participants.

The workshop on Saturday costs \$45.00, includes the Friday Lecture and includes many presentations on Jupiter Watch, the August 1999 solar Eclipse, many many more, plus observing through the Chabot Telescopes till midnight. Dr. Donald Parker, who took those fantastic images will be one of the speakers.

SJAA's Robert Garfinkle will talk on dark haloed craters too. If you are interested, and were not at the meeting, I'm sure a call to Chabot in Oakland will get the ball rolling. It's (510) 530-3480 x22.

I was really glad to hear a planet observing talk!

Comet Comments

Don Machholz

The SOHO satellite, lost in late June, has been located, but it is still not operating properly. Chances are slim that it will ever again return useful data. Images obtained before the satellite was lost showed two more Sungrazing comets heading toward the sun.

Comet Meunier-Dupouy passes opposition and enters the evening sky while Comet Linear stays some distance north. Periodic Comet Giacobini-Zinner brightens in our evening sky; it orbits the sun every 6.6 years.

COMET HUNTING NOTES: While comet hunting I've always recorded the number of meteors I happen to observe passing through my field of view. On June 16 of this year I recorded my 10,000 telescopic meteor. The span of time was 6314 hours over the course of 23 years. The number of meteors I see per hour in the morning sky averages 1.9 while the evening sky averages 0.9. I also record the number of artificial satellites I see. The hourly rates for these has increased, and now exceeds the meteor rates. I made my 10,000 satellite sighting about a year ago.

Ephemerides -- Epoch 2000, 0h UTC

C/1997 J2 (Meunier-Dupouy)

Date	R.A.	Dec	EL	Sky	Mag
09-04	21h18.7m	+06d10' 153d	E	11.5	
09-09	21h14.3m	+04d06' 150d	E	11.6	
09-14	21h10.7m	+02d05' 145d	E	11.6	
09-19	21h07.0m	+00d09' 141d	E	11.7	
09-24	21h04.1m	-01d41' 135d	E	11.8	
09-29	21h01.8m	-03d25' 130d	E	11.9	
10-04	21h00.1m	-05d03' 125d	E	12.0	
10-09	20h58.9m	-06d34' 119d	E	12.1	
10-14	20h58.2m	-07d58' 114d	E	12.2	

21P/Giacobini-Zinner

Date	R.A.	Dec	EL	Sky	Mag
09-04	16h33.9m	+18d40' 84d	E	11.9	
09-09	16h40.3m	+17d13' 82d	E	11.7	
09-14	16h47.6m	+15d40' 80d	E	11.5	
09-19	16h56.1m	+14d03' 78d	E	11.2	
09-24	17h05.6m	+12d22' 76d	E	11.0	
09-29	17h16.3m	+10d35' 75d	E	10.7	
10-04	17h28.1m	+08d42' 73d	E	10.5	
10-09	17h41.1m	+06d44' 72d	E	10.3	
10-14	17h55.4m	+04d40' 71d	E	10.0	

C/1998 M5 (Linear)

Date	R.A.	Dec	EL	Sky	Mag
09-04	21h02.3m	+39d29' 127d	E	10.7	
09-09	20h45.5m	+40d04' 124d	E	10.6	
09-14	20h29.0m	+40d23' 120d	E	10.5	
09-19	20h13.3m	+40d27' 116d	E	10.5	
09-24	19h58.6m	+40d18' 112d	E	10.4	
09-29	19h45.4m	+39d59' 108d	E	10.3	
10-04	19h33.6m	+39d32' 103d	E	10.3	
10-09	19h23.3m	+39d01' 99d	E	10.3	
10-14	19h14.5m	+38d29' 95d	E	10.2	

Orbital Elements -- Epoch 2000.0

Object:	Giacobini-Zinner	Meunier-Dupouy	Linear
Peri. Date:	1998 11 21.32107	1998 03 10.4365	1999 01 24.2795
Peri. Dist (AU):	1.0337095 AU	3.051015 AU	1.746824 AU
Arg/Peri (2000):	172.54569 deg.	122.6755 deg.	101.0613 deg.
Asc. Node (2000):	195.39930 deg.	148.8429 deg.	333.4006 deg.
Incl (2000):	031.85856 deg.	091.2731 deg.	082.2524 deg.
Eccen:	0.7064344	1.000760	1.0
Orbital Period:	6.61 years	Long Period	Long Period?
Ref:	NK 629	MPC 30738	MPC-1998-004
Epoch:	1998 11 21	1998 03 08	1999 01 24
Absol. Mag/"n":	9.0/6.0	4.0/4.0	5.5/4.0

Celestial Calendar

Richard Stanton

Lunar time	Phase	(pdt)	date	rise	trans	set
FM	04:21	06	19:57	01:01	06:52	
LQ	18:58	12	00:14	06:31	13:42	
NM	10:01	20	06:49	13:11	19:26	
FQ	14:11	28	14:02	19:12	00:27	

Mercury	Dist: 1.31 AU			Mag: +1.7	
date	rise	trans	set	RA	Dec
07	05:23	12:09	18:55	10:05.2	+13:02
17	06:13	12:39	19:04	11:14.1	+06:54
27	07:05	13:07	19:07	12:21.1	-00:52

Venus	Dist 1.67 AU			Mag 4.0	
07	05:32	12:16	18:59	10:12.4	+12:22
17	05:54	12:23	18:52	10:59.4	+07:57
27	06:16	12:30	18:43	11:45.5	+03:08

Mars	Dist 2.31 AU			Mag +1.4	
07	03:54	10:58	18:02	08:55.9	+18:29
17	03:46	10:44	17:42	09:21.2	+16:43
27	03:38	10:29	17:20	09:45.9	+14:48

Jupiter	Dist: 3.96 AU			Mag: -2.9	
07 19:48	01:44	07:35	23:41.3	-03:42	
17 19:06	01:00	06:50	23:36.5	-04:14	
27 18:23	00:16	06:04	23:31.7	-04:45	

Saturn	Dist: 8.49 AU			Mag: +0.6	
07 21:31	04:10	10:45	02:07.7	+10:04	
17 20:51	03:29	10:03	02:06.0	+09:53	
27 20:10	02:47	09:21	02:03.8	+09:39	

SOL Type G2V Intelligent Life in System ?

Hours of Darkness:

07	06:41	13:06	19:29	11:02.8	+06:07
17	06:50	13:02	19:14	11:38.7	+02:18
27	06:59	12:59	18:58	12:14.7	-01:35

Astronomical Twilight		Begin	End	
JD 2,451,063	07	05:12	20:58	
	073	17	05:22	20:41
	083	27	05:32	20:24

Sidreal Time

Transit Right	07	00:00=21:56
Ascension at	17	00:00=22:36
Local Midnite	27	00:00=23:15

Darkest Saturday Night:	19-Sep-1998
Sunset	19:10 PDT
Twilight End	20:38 PDT
Moon Set	18:56 PDT
Dawn Begin	05:24 PDT
Hours Dark	08:47



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Submit

Members are encouraged to submit articles for publication in the SJAA Ephemeris. Send articles to Dave North (via e-mail to Timocharis@aol.com).

Finding Fremont Peak

Fremont Peak State Park is south of the village of San Juan Bautista.

From Hwy.101, about 11 miles south of Gilroy, take the eastbound Hwy.156 exit. Run for 3.0 miles, to a traffic light, and turn right onto county Hwy.G-1. Take the second left, then a quick right to stay on the road! Follow G-1 for 12 miles into the park. Be careful to note the "left/right jog" about 1/4 mile after the turn; signs are posted. The park charges a \$3 entrance fee.

Telescope Loaner Program Status

Mike Koop

All scopes are available to any SJAA member; contact Mike Koop by email or at (408) 473-6315.

Current Scope Loans

These are scopes that have been recently loaned out. If you are interested in borrowing one of these scopes, you will be placed on the waiting list till the scope becomes available after the due date.

#	Scope Description	Borrower	Due Date	Note
3	4" Quantum S/C	Eric Anderson	10/31/98	
6	8" Celestron S/C	Ravi Tembhekar	7/26/98	
7	12.5" Dobson	Morris Jones	10/18/98	
16	Solar Scope	Nick Tucci	11/1/98	
19	6" Newt/P Mount	Ran Talbott	10/31/98	
26	11" Dobson	Raymond Brinson	10/11/98	
27	13" Dobson	Bud Wittlin	10/31/98	
28	13" Dobson	Mark Stalions	8/3/98	
29	C8, Astrophotography	Michael Lagae	7/17/98	
31	8"/f8 Dobson	Mark Taylor	08/16/98	

Extended Scope Loans

These are scopes that have had their loan period extended. If you are interested in borrowing one of these scopes, we will contact the current borrower and try to work out a reasonable transfer time for both parties.

#	Scope Description	Borrower	Due Date	Note
1	4.5" Newt/ P Mount	Mark Cousins	08/24/98	
2	6" f/9 Dob	John Paul De Silva	?	0
4	60mm Refractor	Del Johnson	Indefinite	
8	14" Dobson	Ralph Seguin	09/23/98	
9	C-11 Compustar	Paul Barton	Indefinite	
15	8" Dobson	David Kingsley	09/14/98	
18	8" Newt/ P Mount	Cecelia Yarnell	09/18/98	
21	10" Dobson	Ann Hastings	10/03/98	
23	6" Newt/ P Mount	Alexander Koczur	09/14/98	

Stored Scopes

These are scopes that are available for immediate loan, stored at other SJAA members homes. If you are interested in borrowing one of these scopes, please contact Mike Koop by email or at (408) 473-6315 for a scope pick up at any of the listed SJAA events.

#	Scope Description	Stored by	Notes
24	60mm Refractor	Michael Koop	
30	7" f/9 Newt/Pipe Mount	David Manley	

Notes:

0. If you know how to contact John Paul De Silva please call Mike Koop.
1. Do you have some space to store a scope or two? E-mail Mike Koop.

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