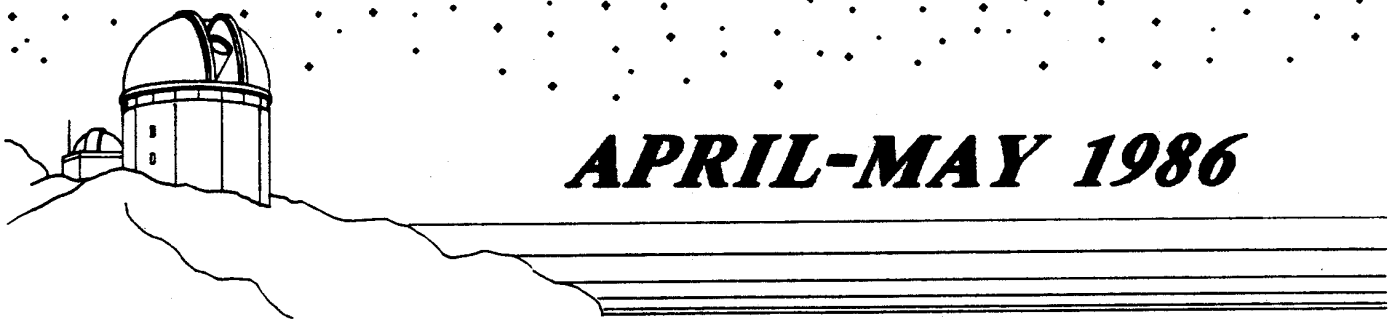
# EPHEMERIS

## OF THE SAN JOSE ASTRONOMICAL ASSOCIATION.



## APRIL-MAY 1986

**********
* APRIL 26TH *
6TH ANNUAL BAY AREA ASTRONOMICAL AUCTION
* 6PM LOS GATOS RED CROSS BUILDING *
*
* MAY 23, 24, 25, 26TH *
*RIVERSIDE TELESCOPE MAKERS CONFERENCE *
* BIG BEAR LAKE CALIFORNIA *
**********

APRIL 5 FIELD EXPEDITION FOR ASTRONOMICAL OBSERVATION TO FREMONT PEAK STATE PARK. DUSK TILL DAWN.

APRIL 12 FIELD EXPEDITION FOR ASTRONOMICAL OBSERVATION TO C.T. ENGLISH SCHOOL. F.P.O.A. COMET PARTY AT FREMONT PEAK STATE PARK.

APRIL 19 INTRODUCTORY ASTRONOMY CLASS AT THE LOS GATOS RED CROSS BUILDING. DOORS OPEN AT 7:30 PM.

APRIL 26 6TH ANNUAL BAY AREA ASTRONOMICAL AUCTION. DOORS OPEN AT 2PM. AUCTION BEGINS AT 6PM.

MAY 2,3 PUBLIC COMET OBSERVATION AT BRANHAM LANE PARK. 7 TO 9PM.

MAY 3 FIELD EXPEDITION FOR COMETARY OBSERVATION TO HENRY COE STATE PARK.

MAY 9,10 PUBLIC COMET OBSERVATION AT BRANHAM LANE PARK. 7 TO 9PM.

MAY 10 FIELD EXPEDITION FOR COMETARY OBSERVATION TO FREMONT PEAK STATE PARK. THE SJAA IS ALSO PROMOTING ASTRONOMY DAY TODAY.

MAY 17 INTRODUCTORY ASTRONOMY CLASS AT THE LOS GATOS RED CROSS BUILDING. DOORS OPEN AT 7:30 PM.

MAY 23, 24, 25, 26 RIVERSIDE TELESCOPE MAKERS CONFERENCE AT BIG BEAR LAKE, CALIFORNIA.

MAY 30,31 PUBLIC COMET OBSERVATION AT BRANHAM LANE PARK. 7 TO 9 PM.

MAY 30 INDOOR STAR PARTY AT THE LOS GATOS RED CROSS BUILDING.

JUNE 7 FIELD EXPEDTION FOR ASTRONOMICAL OBSERVATION TO HENRY COE STATE PARK.

# FIELD OF VIEW
## BY: JOHN GLEASON

### DOUBLE ISSUE

This months double issue may seem rather short for an Ephemeris covering 2-months, but your editor is extremely pressed for time as he prepares for the New Zealand trip. Also, I lost the disk containing the April/May bulletin so I ended up having to re-type everything you see here. (Nope, the disk was not backed-up. Yes I know, I violated the first law of computing.) Another reason for the short issue this month is the fact that I have spent 7 out of 10 days at Fremont Peak photographing the "Comet". Since all of my comet reports were lost on the disk, I'll be looking for comet reports from all of you to publish in future. I am looking for visual impressions both here in the U. S. as well as in other parts of the world. Just jot down a few paragraphs of info and I'll see that it gets into the June issue.

### PUBLIC VIEWING OF HALLEY'S COMET

SJAA members are reminded that the association is coordinating public viewing of the comet on friday and saturday nights, May 2,3,9,10,30, and 31. The location is Branham Lane Park, one-third mile east of the Camden Ave., Branham Lane intersection, between Ross Ave. and Kirk Rd. There is a Safeway store just west of the park. Contact Jim Van Nuland for more information and sign up. Don Machholz will be out of town.

### ASTRONOMICAL AUCTION

The date is set for our 6th annual Astronomical Auction. See the enclosed information sheet describing the event. Doors of the Los Gatos Red Cross building will be open at 2 pm for pre-registering your items, or you can use the handy pre-registration form enclosed.

### TELESCOPE MAKERS CONFERENCE

The 18th Annual Riverside Telescope Makers Conference is here again. It will be held in the usual spot at Camp Oaks, which is located 5 miles east of Big Bear City on Highway 38 at Lake Williams Road. There will again be door prizes, commercial exhibits, and open forums conducted by an "experts panel" on telescopes and related equipment. Time is being allotted to share Halley's comet observations and photography. Don't let the full moon keep you away, there is always something new and interesting to see. For information write to: Riverside Telescope Makers Conference, P.O. Box 4026, Riverside, CA. 92514.

# OBSCURE WINTER PLANETARY NEBULAE-PART II
## BY: STEVE GOTTLIEB AND JACK MARLING

This month we continue our exploration of large obscure planetaries located in the eastern Winter skies. On February 8, 1986 using my 17.5-inch I made a positive sighting of Abell 7, a large low surface brightness planetary in Lepus which was not discussed in last month's article. At 84X with an O-III filter, it appared as a very large, roundish region of haze with averted vision and had 5 or 6 brighter stars superimposed. The field is easily located 10 arc minutes northwest of a mag. 8 star on the Tirion Atlas. The first visual sighting was recently recorded by Dana Patchick in Southern California on November 9, 1985 in a 17.5-inch and he noted (with a Daystar 300), "very faintly visible, large (12 arc minute diameter), quite round with mixed brightness levels, pretty crisp edged." I have included this object at the end of the table.

### DESCRIPTION OF INDIVIDUAL OBJECTS

A-20: Found by Abell off the recently completed POSS in 1955, A-20 is one of the few catalogued deep sky objects in Canis Minor. Jack made a first visual sighting on February 12, 1985 and recorded (17.5"), "with an O-III filter at 80X, A-20 is extremely faint and requires averted vision. Estimate 15.0-15.5 magnitude." On December 7, 1985 I observed this dim glowing bubble with my 13.1" at Digger Pines but needed an OIII filter and averted vision at 79X to glimpse an extremely faint, round, featureless disc. Offset from 7.8 magnitude SAO 115338, 24 arc minutes south and 12 arc minutes east.

A-21: H.M. Johnson and G. Abell independently discovered this peculiar object in 1955. Perek and Kohoutek, in thier 1967 Catalogue of Galactic Planetary Nebulae omit A-21 and refer to it as a remnant of a supernova. Dana Patchick observed it on December 2, 1981 with an 8" f/6 and recorded it as "relatively easy, about the size of M27, located 1/2° southeast of open cluster NGC 2395." I recently logged it with my 13.1" on December 11, 1985 and found A-21 a huge, diffuse nebulosity, unfiltered at 79X Adding a UHC filter presented an interesting, moderately bright thick crescent! The rim is incomplete in the northwest section but is close to 10 arc minutes across. This is one of the more impressive obscure planetaries.

K1-11=A22: Discovered by Kohoutek in 1963 and catalogued by Abell in his 1965 paper. Jack made the first visual observation of this dim planetary on February 4, 1986 (17.5") and logged, " Pretty large, faint, E-W elongation. Requires averted vision, 15-15.5 magnitude, star involved (105X + OIII filter)." I also succeeded on February 8 in my 17.5" with an OIII filter and recorded, "extremely difficult at mag. 15.5, encasing and extending west of a star."

M1-16: With a computed visual magnitude of 13, this 1946 discovery is a relatively easy target. Jack recently found this planetary on February 4, 1986 in a 17.5" and suprisingly found a nearly stellar planetary about mag 13-13.5, very bright in OIII. Listed size of 61" X 15" is clearly incorrect visually. Found 15' NW of 7.8 magnitude SAO 134907."

M1-18: Though most amateurs are aware of the bright planetary NGC 2438 in M46, how many have heard of a second planetary almost in the same field! In 1946 Minkowski discovered this object just 23 arc minutes north of NGC 2438. In my 13.1" at Digger Pines on February 23, 1985 I could just barely glimpse this 15th magnitude planetary using a UHC filter at 79X among an arc of stars. Using a new prototype OIII filter helped but I still required averted vision. Jack first located M1-18 in March of 1984 and noted "best view is using a 13mm Nagler with an OIII filter (150XC), easy averted vision, almost visible with direct vision."

A-24: With a computed surface brightness of only 16.5, this 1955 George Abell discovery is a real challenge. Jack was successful (just barely) using a 17.5" December 10, 1985 for a first visual sighting using an OIII filter and noted, "Exceedingly faint, averted vision essential, sighting not 100% certain."

Je-1: This giant planetary was discovered on Harvard Observatory patrol photographs by R. Jones and R. Emberson in 1939. You will find this planetary plotted on the TIRION SKY ATLAS 2000.0 but mistakenly designated as NGC 247-2475 in Burnham's CELESTIAL HANDBOOK and on the SKALNATE PLESO ATLAS OF THE HEAVENS. This error arose because two knots in the planetary's rim were confused with two small E-galaxies 34 arc minutes south. Jack and I first observed this planetary on February 23, 1985 in a 17.5" using an OIII filter and were surprised to find a very large but diffuse annular planetary with two brighter knots visible on the northwest and southeast ends of the rim. This is a real showpiece planetary in a large scope with the OIII filter.

K1-21: Discovered by Kohoutek in 1971, this planetary will be a challenge to view as its computed visual magnitude is just 16±1. If you want to give it a try, the precise location can be found by drifting 3.9 minutes from 7.4 magnitude SAO 19686. Let us know your results.

Sa 2-21: This recent 1975 discovery by N. Sanduleak is a relatively easy planetary but was previously overlooked as it located only 4 arc minutes west of 4th magnitude 16 puppis! When I first looked for it February 23, 1985 from Digger Pines in my 13.1", I was suprised to find it fairly faint but easily seen with a UHC filter at 166X. It appeared moderate sized (40') and very slightly elongated east-west. Jack logged a first visual sighting in the previous month in a 17.5" and noted, " Nice round, faint planetary. Best with UHC or Deep Sky filter at 420X, right next to star."

He 2-11: Karl Henize discovered this object in 1964. We are not aware of any visual observations and positive or negative reports are requested to pin down a visual magnitude of 13±2.

## OBSCURE LARGE WINTER PLANETARY NEBULAE (PART 2)

| | | | | | | |
|---|---|---|---|---|---|---|
| A 20 | 7h 22.98, +01°45.7 | 65" | 14.3 | 14.5 | 16.6 |
| A 21 | 7h 29.0 +13° 15 | 744" × 509 | 10.3±.5 | ~15.4±.5 | 15.99 |
| K 1-11 | 7h 36.11, +02°42.3 | 105x68 | 15.2p | 15.8 | 19.6 |
| M 1-16 | 7h 37.3, -09°38.7 | 61x15"? | ~13.1? | ~12 | 14.7 |
| M 1-18 | 7h 42.06, -14°21.2 | 31x30 | ~15.0 | 13.5 | 19.1p |
| A 24 | 7h 51.64, +03°00.5 | 265x180 | 13½±1 | 16½ | 17.2 |
| JE 1 | 7h 57.8, +53°25 | 400" | 12.1 | 16.0 | 17.4 |
| K 1-21 | 8h 04.24, -34°16.0 | 35x22 | 16±1 | ~14 | ? |
| Sa 2-21 | 8h 08.73, -19°13.8 | 40" | 13-14 | ~13 | ? |
| He 2-11 | 8h 37.1, -39°25 | 60x40 | 13±2 | ~13 | ? |
| A7 | 5h 03.2 -15°36 | 870 × 670 | 13.2p | >17.9 | |

Ba=Baade, A=Abell, H=Haro, He-Henize, K=Kohoutek, M=Minkowski, Sa=Sanduleak, JE=Jones, Emberson

# COMET COMMENTS
## BY: DON MACHHOLZ

Comet Hartley-Good has now faded, while Comet Boethin remains in our evening sky. The brightest comet in the sky right now is Halley's Comet. During April it reaches "perigee" and opposition, yielding some fine views. On a personal and unrelated note, a story by me appears in the March issue of the magazine "Guideposts"; some of you might enjoy reading it.

### WHAT GOES AROUND COMES AROUND-HALLEY'S

Comet Halley goes south in April, taking many comet watchers with it. It will be at its southernmost point (-47.4 degrees) on April 10. This is the farthest south it has been since April 1759; it will not be this far south again until May 2134. Even at this position it is visible to all observers south of latitude 42°N, if the southern horizon is flat. It would also help to get above atmospheric haze and light pollution.

While the Southern Hemisphere has the better view of the comet in April, Northern observers will be treated to the unusual sight of a bright comet grazing the southern horizon with a tail pointed almost straight up. Looking like a fixed searchlight, such cometary views usually occur only when a comet is close to the sun and the sky background is brightened by twilight. But in this instance the only natural sky brightness will be caused by the Milky Way. This should provide some rare photos.

Periodic Comet Boethin (1985n)

| DATE | R.A. (1950) | DEC | ELONG | MAG. | NOTES |
|---|---|---|---|---|---|
| 03-26 | 04h 05.2m | +25° 44' | 60° | 10 | This little periodic comet remained |
| 03-31 | 04h 24.7m | +26° 33' | 59° | 10 | brighter than mag. 10 for most of |
| 04-05 | 04h 43.7m | +27° 11' | 59° | 10 | Feb. and into March. It is a very |
| 04-10 | 05h 02.1m | +27° 39' | 58° | 10 | diffuse object, making detection |
| 04-15 | 05h 19.9m | +27° 57' | 57° | 10 | difficult. The mag. is still un- |
| 04-20 | 05h 37.1m | +28° 07' | 56° | 11 | certain. The comet is far enough |
| 04-25 | 05h 53.7m | +28° 10' | 55° | 11 | north that it should be visible |
| 04-30 | 06h 09.6m | +28° 06' | 53° | 11 | in large scopes through June. |
| 05-05 | 06h 25.0m | +27° 56' | 52° | 12 | Our next chance will be in 1997. |
| 05-10 | 06h 39.7m | +27° 41' | 50° | 12 | |
| 05-15 | 06h 53.9m | +27° 22' | 49° | 12 | |
| 05-20 | 07h 07.6m | +26° 59' | 47° | 12 | |
| 05-25 | 07h 20.7m | +26° 32' | 45° | 12 | |
| 05-30 | 07h 33.3m | +26° 03' | 43° | 12 | |
| 06-04 | 07h 45.5m | +25° 31' | 41° | 12 | |

For those going south of the equator the comet will not only appear higher in the sky, but it should be above the horizon from dusk to dawn. For roughly ten hours each night the comet will be under constant observation from the same location.

A photo idea I tried several years ago, and suggested in the "The Comet Handbook" by Stasiuk and Gruber, is to make a family portrait with the comet in the background. Set up a camera tripod with your human subjects in the foreground and the comet in the background. Set the lens wide open and take a time exposure to record the comet. After perhaps a half a minute, use a strobe or flash attachment to illuminate your friends in the foreground. Then close the shutter. For this type of picture I've used fast film, a normal lens set at infinity, and then I've positioned myself at about 20 feet from the camera. The strobe was about 20 feet from me, but slightly off to one side. This idea might sound strange, but give it a try.

I have seen no reports indicating that the comet was visible during the daytime. On Feb. 23 I followed the comet into twilight with 27x130 binoculars, but lost the comet when the sun was still six degrees below the horizon. During early March during dust tail increased in length, being easily visible to the naked eye.

Let me add a few more words about the appearance of the comet. How much of the tail you see depends on the actual tail length in space, earth/comet geometry, your eyes, skies and scope. You have some control over the last three. If you have good eyesight, a dark observing site, and proper equipment (although naked-eye views may be the best), you will see a bright comet. During the past few months I've seen a great diversity of eyesight, a line of people where half see the comet tail and the other half complain that the comet "is so lousy that it doesn't even have a tail". As for observing sites, I get a great naked eye view after driving thirty minutes south of town, but from my backyard (in town) the comet is faint to the naked eye. This comet will put on a wonderful show for you, but you do have to "work at it".

The Virgo galaxies are fainter than the popular ones. Most charts show scores of objects in the core of the cluster, but none is brighter than tenth magnitude. Although more than a dozen of the central galaxies are in the Messier catalog, for each such there are several more almost as bright: You need a more comprehensive program to tell the players in this league. Use a good atlas like Tirion's, the old Skalnate Pleso, or the AAVSO Atlas; or else find a more specific finder chart such as the one in the Virgo pages of Burnham's CELESTIAL HANDBOOK.

One technique for exploring this region is the head-first plunge. Put in a low-power eyepiece, eyeball half way from Vindemiatrix to Denebola, and point your telescope there. With a little sweeping and a little lick, you may quickly pick up M84 and M86. These twin elliptical galaxies are spaced a little less than half a degree apart along an east-west line, and are brighter than any similar pair in the cluster. Or you might find M87, another big elliptical a few tenths of a magnitude brighter. It lies about half a degree south of M84 and M86, and not quite a degree and a half to the east. M87 has a star of roughly 8th magnitude adjoining it to the north-northwest. These three galaxies are the big three in the Virgo cluster, and mark its core.

If your plunge bellyflops, back off and get into the water a toe at a time. I recommend two ways to use naked-eye stars as stepping-stones into this area, provided you use decent charts.

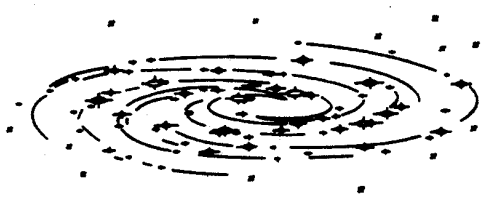
First, locate the three fifth-magnitude stars 6, 11, and 24 Coma Berenices. They mark the points of a boomerang three degrees on a side, centered eight or ten degrees east of Denebola. In this star-poor area the trio is visually prominent. M98 and M99 bracket 6 Coma at distances of less than a degree, the former almost on a direct line toward Denebola. M85 lies approximately forty percent of the way from 11 to 24 Coma. M100 is about two degrees from 6 Coma, roughly northeast. Good charts will show two fainter stars between 6 Coma and M100, that are telescopically prominent and make excellent guideposts.

None of these galaxies is as bright as the big three, but their proximity to naked-eye stars should help you find them. M85 is probably the easiest of the four. the practice will let you figure out which way is north in your telescope tonight, which in trun will facilitate sweeping south and west toward the core of the cluster.

Alternatively, find the naked-eye double star rho Virginis, about five degrees west of Vindemiatrix. About a degree and a half north is an east-west pair of Messier galaxies, M60 and M59. About a degree and a half west of this pair is M58, rather similar in appearance, with a 7th or 8th magnitude star adjoining it to the west. From M58, a degree and a half west-northwest brings you to M87, and by that time you are either home free or hopelessly lost. No matter -- back up and try again.

Once you have your bearings, notice the beautiful avenue of galaxies that trails off to the northeast of M84 for a degree or two. As an interesting contrast in galaxy types, look at the edge-on 12th-magnitude spiral NGC 4388, which forms the southerly point of an equilateral triangle whose other apexes are M84 and M86. A six-inch should show it easily. How much aperture does it take to see NGC 4387, a magnitude fainter and dead center in the triangle?

And if all of this is too easy, you might try looking for the famous jet of gas that streams out from the core of M87. I have not seen it, but a friend once reported it in a 30-inch Newtonian.



The comet covers a lot sky during April. Early in April it travels south of the tail of Scorpius; the third quarter moon passes 12° north of the comet on April 1. After Apr. 4 the moon will not be affecting comet viewing. On Apr. 10 the comet will be closest the earth at 39 million miles, three times the distance it was in 1910. On Apr. 14 it passes 6° north of the globular cluster Omega Centari, and right past galaxy NGC 5128. On Apr. 18 the comet becomes an evening sky object. The moon begins to interfere by now, being full, and eclipsed, on Apr. 24. The first half can be seen from the Western US that morning, but the comet, 39° from the moon, will have already set by then. The South Pacific will see both the comet and eclipsed moon.

The moon will be past full and rising after evening darkness by April 28. The evening sky will remain moon free until May 11. On May 17, the moon, just past first quarter, will pass 25° north of the comet. Full moon is May 23. By May 25, the moon will be rising again after evening darkness, giving some time for observations of the comet.

Here are positions, elongations and magnitude estimates for Comet Halley. The final set of figures gives comet rise or set time for standard longitudes (75°, 90°, 105°, and 120° W.) for four latitudes. Subtract four minutes for each degree you are located east of these longitudes, or add four minutes for each degree west.

During May the comet slows down considerably, as it continues to receed from both the earth and sun. Due to its northernly motion the comet will set only slightly earlier each night. At this rate it should be visible from these latitudes until early to mid-July. It then goes into conjunction with the sun, emerging in Oct. at magnitude 13. So most of us will see Halley's Comet for our last time in July.

Periodic Comet Halley (1982i)

| Date | RA (1950) | Dec | El. | Mag. | +40° | +30° | 00° | -40° | |
|---|---|---|---|---|---|---|---|---|---|
| 03-26 | 19h 13.8m | -31° 20' | 79° | 3.3 | 0306 | 0225 | 0103 | 2300 | (Rise) |
| 03-31 | 18h 32.9m | -37° 23' | 93° | 3.2 | 0242 | 0147 | 0002 | 2123 | (Rise) |
| 04-05 | 17h 20.1m | -44° 11' | 111° | 3.0 | 0208 | 0046 | 2230 | 1851 | (Rise) |
| 04-10 | 15h 22.2m | -47° 24' | 131° | 3.0 | 0036 | 2248 | 2012 | 1548 | (Rise) |
| 04-15 | 13h 20.7m | -42° 05' | 147° | 3.3 | 2108 | 1956 | 1751 | 1434 | (Rise) |
| 04-20 | 12h 04.0m | -32° 49' | 148° | 3.8 | 1825 | 1742 | 1614 | 1403 | (Rise) |
| 04-25 | 11h 22.0m | -24° 55' | 139° | 4.4 | 1644 | 1615 | 1513 | 1341 | (Rise) |
| 04-30 | 10h 58.1m | -19° 14' | 130° | 5.0 | 0221* | 0243* | 0229 | 0337 | (Set) |
| 05-05 | 10h 43.8m | -15° 14' | 122° | 5.6 | 0202* | 0219* | 0155 | 0248 | (Set) |
| 05-10 | 10h 35.0m | -12° 24' | 115° | 6.0 | 0144* | 0157* | 0127 | 0209 | (Set) |
| 05-15 | 10h 29.5m | -10° 21' | 109° | 6.5 | 0126* | 0137* | 0101 | 0137 | (Set) |
| 05-20 | 10h 26.2m | -08° 49' | 103° | 6.9 | 0108* | 0118* | 0038 | 0108 | (Set) |
| 05-25 | 10h 24.5m | -07° 41' | 98° | 7.2 | 0051* | 0059* | 0017 | 0043 | (Set) |
| 05-30 | 10h 23.9m | -06° 50' | 93° | 7.6 | 0034* | 0041* | 2357 | 0020 | (Set) |
| 06-05 | 10h 24.1m | -06° 12' | 88° | 7.9 | 0016* | 0023* | 2337 | 2358 | (Set) |

*denotes Daylight Savings Time.

## THE CELESTIAL TOURIST SPEAKS
## BY: JAY REYNOLDS FREEMAN

The approach of Spring brings amateur astronomers not only the prospect of warmer waether, but also the opportunity for a relatively unobstructed view of the rich central portion of the magnificent Virgo Cluster. This great gathering of island universes is centered at roughly twelve and a half hours of right ascension, twelve and half degrees north declination. On all the popular star charts, the wide gap between epsilon Virginis (called Vindemiatrix) and beta Leonis (Denebola) is filled with the little oval figures that mark galaxies.

The region is sometimes frustrating for the visual observer. It contains few naked-eye stars and no prominent asterisms, so the world-be star-hopper has no celestial base camp for further exploration. The area is chock full of galaxies, but none are particularly distinguished in size, shape, or detail, so that the familiar "just scan until you find it" ploy fails: You are certain to find something, but what is it?

The scarcity of stars is actually a side effect of a blessing, a symptom of the lack of Milky Way material along our line of sight toward the cluster. If there were many stars, there would surely be much dust and gas, and our view of extragalactic objects would be dimmed.

THE
SAN JOSE ASTRONOMICAL ASSOCIATION'S

# 6TH ANNUAL

# BAY AREA ASTRONOMICAL AUCTION

## WILL BE:

## SATURDAY APRIL 26TH AT 6:00 PM

## AT THE LOS GATOS RED CROSS

## 16011 LOS GATOS-SARATOGA RD.

## DOORS WILL OPEN AT 2:00 PM

*TELESCOPES, EYEPIECES, MOUNTINGS, MIRRORS, LENSES, CLOCK DRIVES, BOOKS, CAMERA GEAR, STAR CHARTS, FINDERS, TUBES, DIAGONALS, & PHOTOS*

*Everything you need to make your hobby more enjoyable. You name it - it will likely be there. Check your garage and closets for anything astronomical you would like to sell. Complete the pre-registration information form on the back and save time and trouble. Anyone may buy and sell! It's fun and easy! See you there.*

## PLEASE PRE-REGISTER ALL ITEMS

The 6th Annual Bay Area Astronomical Auction is approaching , so now is the time to start looking around for those items not earning their space, or brought back from Riverside, or whatever is astronomical or telescope-making related that you would like to earn some $ from.

Pre-registeration by mail makes it easy. Fill out the form or a copy of it. List each different item you have. If there are several identical items, use a single line and enter the quantity. Give a minimum price, even if you wish to let it go really cheap. Indicate the percentage of the selling price to go to the SJAA (minimum 10%). If you wish you may make an outright donation, it is now TAX DEDUCTABLE. All proceeds from the auction go to further public education in astronomy.

Next, and MOST important, mail the completed form, with a SASE to, Jim van Nuland, 3509 Calico Ave., San Jose, Ca. 95124. You might want to keep a copy for your files. Jim will assign you bidder/seller and item numbers, and return the form to you promptly. That's a promise.

You will now have numbers to label everything before the day of the auction. Use self adheisive labels to indicate the number of each item. If your labels are large enough, please note the minimum bid also. It will help the auctioneer to work smoother and faster.

If you find another box of things, just send in another form. Include your bidder number from the first form. If it is something already registered, give the item number of the first, indicate the quantity to be added, and use the same description.

If you omit the SASE, Jim will assign the numbers but hold the form for pickup upon your arrival at the auction. There will be limited time to label your goodies before the auction. Please have them all marked before auction day All articles pre-registered will be entered into the computer before auction day so there will be no backlog and, for those pre-registered, no delays. Priority on auction day will be given to assignment of bidder numbers. Late item registration will be time available only basis. So get those forms to Jim.

DIRECTIONS TO THE AUCTION:

Take Hwy 17 south towards Santa Cruz. Take the Highway 9 (Los Gatos-Saratoga Rd) exit and continue west on Los Gatos-Saratoga Rd. Travel about 0.6 Mile to Rose Avenue and turn right. Turn right immediately into the Los Gatos Red Cross buildings parking lot. (16011 Los Gatos-Saratoga Rd).

Doors open at 2 PM for registration and bidders. There will be no item registration past 5:45 PM. Auction starts promptly at 6 PM. Payment may be by cash or check. There will be a $1 Bidder/seller registration fee at the door. Refereshments will be available!

## 1986 SJAA AUCTION PRE-REGISTRATION FORM

BIDDER # _____ NAME: _____ CLUB: _____

ADDR: _____ CITY: _____ ZIP: _____

| ITEM # | QTY | MIN BID | SJAA % | DESCRIPTION (40-50 CHARACTERS...) |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# SJAA MEETING AND STAR PARTY LOCATIONS

## GENERAL MEETINGS

Once a month the SJAA holds a General Meeting at the Los Gatos Red Cross building in Los Gatos California. The large meeting room has kitchen facilities and large slide projection screen. This is also the location for the SJAA's "Indoor Star Parties", informal sessions where members gather to share their astronomical interests. Whatever your interest, astrophotography, deep sky observation, telescope making, or just arm chair observing, you'll find a friendly atmosphere at all of our meetings.

The Red Cross building is located at 18011 Los Gatos-Saratoga Rd. From Hwy 17 take the Hwy 9 (Saratoga) exit and continue west up the Los Gatos-Saratoga road for about 1.5 miles. Turn right at Rose Ave. Then turn right immediately into the parking lot of the Red Cross building. Doors open at 7:45 PM, with General meetings beginning at 8 PM. General Meetings are held on the 4th saturday of each month.

## C.T. ENGLISH SCHOOL

This site, in the Santa Cruz mountains, is a new one for the SJAA so come and try it out. To get to C. T. English, follow Hwy 17 south to the Summit Road exit. Take the exit and turn right onto Summit Road (east). This is an overpass that crosses Hwy 17. Continue east on Summit for about 2.5 miles. The school will be on your right. Proceed through a gate and park on the paved direvway in front of the school. If you are setting up equipment you are allowed to drive around to the back and set up equipment next to your vehicle on the paved playground area. There is also a open field east of the playground that will get observers further away from the school lights.

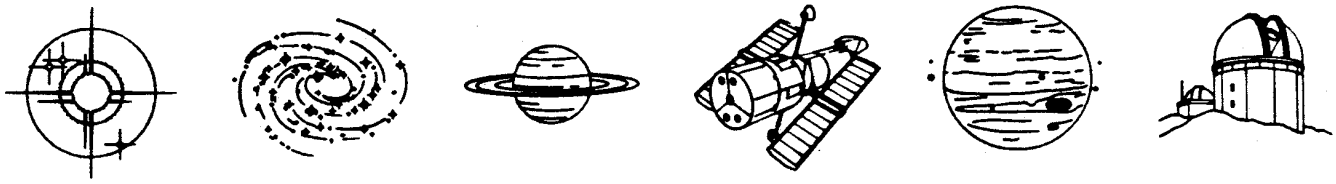
## HENRY COE STATE PARK

Take Hwy 101 south towards Morgan Hill and take the East Dunne exit. Continue east towards the hills (around and past Anderson Reservior) for about 12 miles to the park. Past the park entrance you will see old ranch type buildings on the right and a horse trough. The gate (on the left) is locked but the club combination is 4565. Always lock the gate after yourself. If arriving after dark, please park outside the gate and hike in first to find an observing site before dark, please. Just a short distance up a hill beyond the gate is where the SJAA sets up equipment.

## FREMONT PEAK STATE PARK

Take Hwy 101 south towards Salinas. Then take Hwy 156 east (San Juan Bautista exit) for two miles to a yellow flashing light. Turn right and go about 1/4 mile to where the road reaches a "Y". Stay left for about 25 yards and then go right. (Watch closely for the Fremont Peak sign) Follow the canyon road for about 11 miles up into the park. The SJAA set up at Coulter Camp. It's visible on your right as you drive up onto the main area of the park. There is usually some astronomical activity here every clear new moon weekend. Fremont Peak stands 3000 ft above sea level. Arrive early if you are setting up equipment. 30 to 40 telescopes are not uncommon at Fremont Peak.

EPHEMERIS is published monthly by the San Jose Astronomical Association, 3509 Calico Ave., San Jose California 95124. Contributors are welcome to submit articles for publication. These should be typed and submitted no later than the 12th of the previous month. All submissiona should be sent directly to the editor, John Gleason, 5361 Port Sailwood Dr. Newark, CA. 94560



## SAN JOSE ASTRONOMICAL ASSOCIATION MEMBERSHIP APPLICATION

MEMBERSHIP ONLY: $8.00  MEMBERSHIP/S&T: $21.00  JUNIOR (UNDER 18): $15.00

Name _____

Address _____

_____

Telephone (____) _____

**Please bring this form to any SJAA meeting, or send to:**

Jack Peterson, Treas.
San Jose Astronomical Association
1840 Yosemite Dr.
Milpitas, CA. 95035

[ Phone: (408) 262-1457 ]

Please check type of membership and if new or renewal.

Membership Only____  Membership/S&T____

Junior (Under 18)____

New____  Renewal____

Questionnaire (optional)

What are your astronomical interests (e.g. astrophotography, deep-sky observation, telescope making, etc.)? _____

_____

_____

_____

Do you own a telescope? _____ If so, what kind?

_____

Is there any specific area of astronomy that you feel qualified to help others with? _____

_____

_____

SJAA EPHEMERIS
3509 CALICO AVE.
SAN JOSE, CA. 95124

NON-PROFIT ORGANIZATION
U.S. POSTAGE PAID
PERMIT NO.5381
SAN JOSE, CA. 95125

TIME VALUE – DATED

NEWS MATERIAL