

Eyepiece Views: November, 2002

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E Y E P I E C E V I E W S

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1. TIME FLIES!

The 91st Annual Meeting of the AAVSO was recently held along with the International Dark Sky Association's first meeting away from their headquarters in Tucson, Arizona. It was exciting to see so many people from diverse backgrounds and interests strive to save dark skies and protect a valuable natural resource for future generations. We also enjoyed the last phase of fall foliage here in Cambridge with breathtaking colors capturing the attention of every visitor.

It was announced at the meeting that the AAVSO database surpassed the 10.5 million observation mark in the last year. Jean Gunther of France gets the honor of holding the milestone with the following observation:

0543+19 SU TAU 2452285.3 10.1 GUN

We are expecting to pass the 11 millionth mark this year. Which one of you will get the honors?

This issue of Eyepiece Views comes to you again with enthusiastic articles to encourage our tireless observers in the coming months.

We wish you a very pleasant time at this holiday season.

Thanks and good observing!

Gamze Menali, AAVSO Technical Assistant (MGQ)
Aaron Price, AAVSO Technical Assistant (PAH)
Mike Simonsen, AAVSO Observer (SXN)

2. MORE MEMORABLE NIGHTS - Gerry Dyck

The vast majority of my approximately 4,000 variable star observing sessions have been fairly routine affairs with no exceptional features to set them apart. This is not to say that they were boring; it only means that they do not stand out in my memory after almost twenty years of observing. Then there are those special nights when something unusual happened, either in the sky or on the ground around me - nights, which stay in my memory to this day. There are a few more of these, which I will relate briefly for my fellow observers and readers of this electronic newsletter. Last time I told how my efforts to create a better horizon had been rewarded. This time I shall briefly tell of five other instances when I was rewarded by good will, good luck, good location, good connections and good company.

Long-time observers will no doubt understand my greater enthusiasm for observing on moonless nights and my lesser zeal for the hunt when a bright moon is blazing away and washing out all the fainter targets. Yet perhaps like me, you have been rewarded at least once for your determination to observe despite the diminished quality of the sky. I recall one such case in the late 1980s. I had been observing the field of DO Draconis for about six years without ever seeing the target star. Then my first sighting of DO Draconis in outburst came on a night of the full moon when I had only barely motivated myself to open the observatory. The memory of that satisfaction has been sufficient to get me outside on other marginally viable nights when other useful observations were also made.

I recall another instance when a memorable observation was made because of serendipitous conditions beyond my control, except that I was there when it happened. It was during August of 1989 when our extended family was having a weekend reunion at a camp in southern Michigan. A total eclipse of the moon was to happen on Saturday night. The moon was on the border between Capricornus and Aquarius. I set up our 10-inch reflector for viewing the eclipse and any occultations, which might happen during the event. At the appointed time the eclipse began, culminated and ended under excellent conditions. All of us enjoyed the views in the scope, with binoculars and with naked eyes. During totality I saw that no interesting occultations were imminent, so I began sweeping the sky near the moon. I then realized that I was quite near to the field of VZ Aquarii. I found VZ and it was in outburst! As it was only 5 degrees from the full moon, I feel sure that I would not have been able to find and report this outburst except for the coincidence of the total lunar eclipse.

My observation of RZ Sagittae at fainter than 13.6 on the evening of August 8, 1995 was not memorable in itself. It was made special in my memory for two other reasons. It was my 100,000th variable star observation and it was made in the shadow of the dome of the 100-inch Hale reflector on Mount Wilson. In the summer of 1995 I was privileged to be invited by Prof. Joe Snider of Oberlin College

to join the staff of CUREA, a program which allows undergraduates to do hands-on research in astronomy during a two-week stay on Mount Wilson. My part in the program was to introduce the students to variable star observing. Unfortunately we were on the mountain during the waxing moon and pollution from the valley was rather bad. Nevertheless, it was a very good time and I was able to continue my personal variable star observing program using a small borrowed instrument. And, of course, it was a very special place at which to reach an observing milestone.

When I saw YZ Cancri rise in brightness from <14.4 to 13.8 on the night of March 4, 1987, I was sure it was the beginning of a much anticipated outburst. I ran from the observatory to the telephone with unusual speed to report the outburst. YZ was one of the targets of the International Ultra-violet Explorer (IUE) satellite team, which had just begun a one-week run in collaboration with the AAVSO. Janet Mattei took my information and relayed it to the observing team in Madrid. As a result, the IUE telescope was pointed at YZ Cancri and valuable outburst data were gathered. It was the first time I experienced the excitement of a direct connection between my backyard observatory and a team of astronomers operating a telescope in space.

On night last year I saw outbursts of FO Aquilae and AY Lyrae on the same night. This is not exceptionally rare, but it sent my mind back to another time in 1985 when the same two stars were in outburst on the same night. That night I was in the company of three of the dearest people I know. One was Helga, the other two were Clyde and Patty Tombaugh. The Tombaugh's had graciously responded to our request to drop in and visit them at their home near Las Cruces, New Mexico. After dark I set up our 10-inch reflector in their backyard for a session of variable stars and other summer targets. Clyde looked through our telescope and we looked through several of his. The coincidental outbursts of FO Aql and AY Lyr stuck in my memory because it is linked with the fulfillment of a dream: for one Kansas farm boy to meet another Kansas farm boy who had become one of his heroes.

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Footnote: On the night of this writing (14 Oct 2002) I saw once again the outbursts of AY Lyr and FO Aql. I took it as a omen of blessing upon this little writing project.

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3. PUSHING THE LIMIT - Mike Simonsen

Many observers record a lot of negative observations, monitoring CVs or LPVs that are very faint at minimum. After determining the variable is definitely not visible, the next step is to determine an upper limit by recording the faintest comp star visible. One of the things that makes doing these observations interesting and a challenge is to see just how faint you can actually see on a given night. This can become a test of your optics, the atmosphere, and your observing skills.

I never thought I would see a 15th magnitude star in Alex, my 10" SCT. But, having learned some tricks after 25,000 variable star observations, this is not uncommon now.

Here are some tips that may help you push the limiting magnitude of the aperture you use.

1- Make every effort to get fully dark adapted, and keep it as long as you can. It usually takes about twenty minutes to get adapted. Make every effort not to have to start over again by getting blasted with unwanted bright light. This includes not looking at bright stars in the eyepiece. LL Lyr is pretty close to Vega, so I use Vega to star hop from. However, I don't look at Vega in the EP. I line it up in the finder and then watch the glow in the EP from a safe distance as I slew the telescope south, until Vega is out of the field of view.

2- The moon is the enemy. Avoid it, when you can.

3- Early morning is the best time. The sky is generally steadier and darker after midnight. From about 1AM to twilight human activity and night lighting are at a minimum.

4- Eliminate all distractions. It takes concentration to get the most out of your scope.

5- Eliminate stray light. You don't have to observe all night with a blanket over your head, but for the few you really want to go after, try it. A domed observatory is a great help. Even when the moon is up you can point the slot away from it to avoid stray light hitting the EP or your eyes.

6- Use as much magnification as the sky conditions will allow. For me, the 12mm Nagler at 208x is just about perfect all the time. I have a fairly generous FOV, and the sky background is fairly dark on good nights. I have a 10mm Radian (250x) and a 7mm Nagler (357x) that I use on rare occasions. The 17mm Nagler (147x) I use for LPVs because it has a wider FOV, and it is the most comfortable, non-eye-straining EP I have ever owned. I don't use it to see faint though. I find I need more magnification to eke out the faintest stars visible.

7- Relax! Take deep breaths or stretch or whatever makes you chill out. If you feel yourself getting tight or tense, take a break. Straining is counter-productive.

8- Get comfortable. I can see fainter when I am comfortably seated than I can when I am hunched uncomfortably over the EP. Try to stay as warm and dry as you can in the winter. Shivering is counter-productive too!

9- Master the art of averted vision. This really means find your 'sweet spot'. When I want to see the faintest star I can, I usually look away and to the upper right of the star I am trying for. In most of the fields I am familiar with I have a 'go to star', the one I usually try for as my fainter than observation. I also have another fainter one that I'll try for on good nights. More importantly, I have a 'go to spot' that I look at while I try to catch the faint bugger with averted vision. After you get to know the fields, you know where to look, and what to look for.

10- You have to believe you can do it. I never looked for 15th mag stars before because I assumed I wouldn't see them. WRONG! As long as you are there, studying the field, you may as well take a look. I just about fell off my stool when I saw 156 in the HT Cas field one night under excellent conditions.

11- Mixed results with this one. Take a few deep breaths and hold the last one. I don't know if it is a function of additional oxygen or relaxation or some body chemistry, but it seems to work sometimes.

12- Be patient. You may have to wait a minute or so for the sky to steady just enough for you to glimpse the faintest stars.

13- Observe fields at the highest point above the horizon you can. This takes some planning, and it changes the order you observe stars as the seasons change. Just be aware of it, if you're going to push the limit.

14- Know your local conditions. I can always see fainter in the NE sky over Lake Huron, because there is less light pollution. So I may actually view Cep, Cas, Per, And, and Aur before they approach the zenith, because the sky will be darker as they are rising.

15- To be sure you are actually seeing as faint as you think you are seeing, you have to have a good sequence, based on accurate photometry. This eliminates many of the older AAVSO charts whose faint ends can be pretty far off the mark. Use a Henden, Stanton, Misselt or Zissell sequence, or don't get too excited.

One final note. Don't let the pursuit of seeing to the absolute limit of your scope spoil the fun or wear you out. It really doesn't make that much difference if a CV that is not in outburst is <14.5 or <15.0, so don't go blind trying. If your goal is to make as many quality observations as you can in a night, don't waste extra minutes waiting to glimpse the faintest star you have ever seen in a field. Move on to the next one. There is always the next time.

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Footnote (Aaron Price):

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Recently observer Dan Taylor (TDB) contacted the AAVSO asking for our faintest visual observation. It is not easy to come up with such a number because some of the charts from the past are pretty poor at the faint end. Also, many amateurs sometimes use professional and/group telescopes giving them access to large aperture. Nevertheless, Dan came up with an observation that we feel is among the top ten faintest visual observations because of the quality of the chart sequence used and the fact that he did it with private equipment. Below is a description of his observation:

The clear, dark skies of the Oklahoma panhandle experienced at the Okie-Tex star party, offered an opportunity to go deep, real deep. Using Henden sequence charts I was able to spot several 17.2 stars in my 20 inch Dob. I borrowed a 24 inch dob(Warning: borrowing a large dob can require delicate tact). Using the V402 AND f chart, a 178 comp star was steadily seen. Meanwhile the variable, somewhat brighter, was at magnitude 176. If only I lived under such skies, for it was nice to drop in on V402 AND!

Dan Taylor

4. COMPUTER CONTROL OR DOBBY - Gary Poyner

What's the current hot topic doing the rounds at your local Astro Society? Well at mine, the big debate is whether the GO-TO telescope is the greatest invention since the wheel, and that the humble dobsonian telescope is now ready for the museum. I'm sure that this is the case in the amateur community as a whole too. Well as you might imagine, I have a few thoughts on this, which I would like to share with you all.

Firstly if you are a dedicated CCD photometrist, these comments are not aimed at you. You guy's do a great job, and the high standard of data which you produce would not be possible unless your telescope was computer aided. But how about us visual observers? Are there any benefits in having your scope do all the work for you? What are you learning about the sky? Are you having as much fun as a dobsonian user?

A few weeks ago I had the opportunity to use a GO-TO telescope at my local astro club. I typed in the co-ordinates of some unfamiliar deep sky object, and the telescope dutifully moved to the field. I peered into the eyepiece and low and behold there was the faint fuzzy patch. I did the same for several more objects and each time the object was centered. I then proceeded to key in the co-ordinates for several variables. By the time the scope slewed to the first one, I could have made three estimates! I have to say that I found the process of using this type of scope a thoroughly unrewarding experience. For me, one of the great pleasures in observing is actually locating a new (or familiar) object - variable star or galaxy! When you hop from star to star and that faint patch of light or recognizable star field slowly moves into your eyepiece field of view, the feeling is great - one of achievement almost. On some occasions this might be a more rewarding experience than actually observing the object itself! How many times have you spent long periods searching for a new variable star field? Feeling frustrated and ready to give up... Then it slowly moves into your field of view, and WOW! You know the feeling! I found this feeling (emotion?) totally absent during my observing session with the computer controlled scope.

But there are other issues too. Do users of these scopes actually know the sky? By using a finder scope to locate your target, your knowledge of star fields (other than the ones you are hunting) increases. Also do you know where your variable is in the sky? If there is heavy cloud cover, and a hole appears for five minutes, I can point my dobsonian into it, and go from variable to variable until the hole closes up, or moves to another part of the sky where I can do the same. How easy is this with a GO-TO? Do you know the variables visible through that hole in the cloud? I appreciate that a lot of experienced observers are now using computer scopes, but what about newcomers? We have several members in my local club who have purchased GO-TO scopes. Needless to say, their basic knowledge of the night sky leaves a lot to be desired.

Cost is also an important aspect to be considered. Every astro magazine you read these days are crammed with ads for computer controlled scopes, costing several thousand pounds (or dollars). This can be a major stumbling block to the young would-be astronomer who desperately wants a scope, but can't afford (or his parents can't)

that kind of money. How many ads' do you see for Dobsonians? Well in the UK, not that many. In December 2001 I found myself looking for a new scope (after my 16 inch was destroyed by fire). After lots of searching, I eventually found someone who could make me an 18 inch dobsonian for under 2,500 pounds. What aperture could I expect for this type of money if the scope came with a computer? I also own an 8.75 inch f6 dobsonian I bought 15 years ago. This scope out performs every SCT I have seen through of similar aperture, it let's me follow mag 14ish variables, yet the cost was minimal. A perfect scope to start VS observing with - but how would the prospective new VS observer know that with today's advertising!

Ah... but hang on I hear some of you say. My GO-TO can track the stars. True, but in the past when I have used driven scopes, how many times have I switched the drive off so that the stars slowly move across the field of view in order that the variable I am looking for - which is right on the limit of my scope - becomes visible as it passes through the center? Well lots and lots of times I can tell you. The eye is very sensitive to movement, and using this trick does help in seeing those very faint variables on your limit. And of course, a scope which tracks needs power. Not so tricky these days, but you are still reliant on an extra piece of kit - i.e. a battery - to perform. What do you do if it pack's up, or the temperature drops so low that your power pack (which you are using in a remote location) decides that enough is enough and goes to sleep? And can you use it when it's raining or snowing? I picked up an outburst of UV Per many years ago whilst it was snowing, through a hole in the cloud over the northern area of Perseus! Would you even consider taking out your mega buck piece of kit in conditions like that?

I'm sure you can see my point (well I hope so anyway). A dobsonian telescope (or other alt-az mounted scope) is the perfect design for VS observing. Point it anywhere, take it everywhere, and use it anytime. All you need is a little basic skill, patience and desire. The sky is the limit!

G. Poyner
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Footnote (Gamze Menali):

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"...I'm moved by what's actually 'out there' and not nearly so much by what we use to 'see' or whether we 'hop' or employ an onboard computer to 'get us there'. There is no 'better' way. It's simply one of the aspects of observing that some observers feel more strongly about than others. As for me, all I want to do is see the stars -- any and every way I can!" are the words from another one of our vivid observers.

So please do not feel that one or the other is better. It is simply a question of personal taste and individuality. Some are in favor of computer aided scopes, some are manually driven, and some use them both in their observing sessions depending on the time frame they are working with as well as the characteristics of the star or stars they

want to or are able to, observe. Please remember that what is most important in all of this isn't what you're using to observe with but rather that you ARE observing. We appreciate and welcome each and every single of observations that are made, using any kind of instruments at any time. So please feel free to share your thoughts, experiences with us as far as using different methods. We are here to share and understand each other's ideas and support them in anyway we can. Please send comments, suggestions or any ideas you may want to share on the subject and/or any other subject, to gamze@aavso.org

5. CVs AND UNUSUAL OBJECTS FOR WINTER

The Cygnus Run

By Mike Simonsen (SXN)

It should come as no surprise that in one of the most densely populated constellations in the Milky Way, Cygnus, there is a bounty of cataclysmic variables and unusual objects to observe.

Like many observers, I tend to do my program stars by constellation, starting in the west and progressing to the east. At a minute or two per observation, most constellations require only ten or fifteen minutes to get through.

After whipping through Hercules, Lyra, Aquila, Sagitta and Vulpecula I come to the part of my program I call "The Cygnus Run". I usually take a break before diving into this section of the Milky Way because I know it's going to be a while before I make it out to the other side. Sometimes, when the sky is hazy or the moon is up, or I'm near the end of a session and getting tired, I get to this part of my program and think, "Oh boy, here we go". Some nights I just do the "greatest hits" because it's just too daunting to tackle the whole thing.

In the spring and summer, it's less difficult, because Cygnus rises in the east and travels high overhead during the night. But, as winter progresses, Cygnus starts the night closer and closer to the western horizon. The Cygnus Run becomes a race against time, especially if you want to observe anything else before wrestling with 'the swan'.

After hundreds of Cygnus Runs, I have organized the stars into an order that facilitates my doing them quickly and efficiently. I don't have to move the scope far between fields, and I can make several observations before having to rotate the dome. I also make sure to catch the ones that will set first early in the run.

It's November now, so lace up your track shoes. Here we go.

1934+30 EM Cyg (UGZ) This is a good place to start a long run. An easy star hop from phi Cygni and located in a nice star field, this hyper active star seems to always be doing something. Rapid changes from 14.5 to 12th magnitude make this one fun to monitor.

1930+31 V795 Cyg (UGSS) A short hop from EM Cyg gets you to this field. This is a rather infrequent outburster. It gets as bright as 13.5 when it does go off, and there are plenty of comparison stars

close by to make estimates with.

1927+33 V792 Cyg (UG) Following a little chain of 9th magnitude stars in the finder will get you to V792 Cyg from V795 Cyg. There are no AAVSO charts for this one, even though it goes into outburst quite often. I've seen it in outburst twice since August.

1929+33 V793 Cyg (UG) No AAVSO charts for this one either, but it's just a short hop SE from V792 Cyg. This one lies in the heart of a string of close companions that will make it a real challenge to untangle and positively identify in outburst. It can get as bright as 14.4, so is within the reach of a 10" scope. There is very little data on this one in the AAVSO archives.

1950+32A EY Cyg (UGSS) Swinging to the east and following a line of stars almost due south from eta Cyg, this UGSS gets into the 11th magnitude range in outburst. The last two were in November 2001 and January 1997. It tends to hover around 15th magnitude in quiescence.

1955+33 V482 Cyg (RCrB) The last RCrB type fade of this star was in 1996. It dropped down to the mid-thirteens before coming back up to its present state. It has a close 14th magnitude companion that may add to the scatter in observations.

1949+35 V1454 Cyg (UG) Hopping directly from eta Cygni, north, then east, brings you to V1454 Cyg. Be careful in identifying this field the first few times. There is another asterism that looks very similar just to the east of it. Searching for data on this one, I came across only two positive observations, one in October 1996 and one in May 1997. Both were around 14th magnitude.

1946+35 CI Cyg (ZAnd +E) Continuing in a line NE from eta Cyg you'll find CI Cyg. Now here is an unusual object. An eclipsing symbiotic variable! This system shows eclipses every 855 days that last 100 to 200 days. At other times, it has erupted, getting as bright as 9th magnitude. Recently it has hovered around the 11th magnitude mark. CI Cyg was the variable Star of the Month for July 2002. For more details see: <http://www.aavso.org/vstar/vsotm/0702.stm>

1944+36A V811 Cyg (UG) Continuing in the same direction from eta Cygni through CI Cyg we come to V811 Cyg. This is a fairly active star that can get as bright as 12.7 in outburst. There is a good PEP(V) sequence from R. Stanton for this star, but the AAVSO charts are pretty bad. There are three 14th magnitude stars fairly close by that could easily be confused for the variable if you use the d chart. The g scale chart will help you sort out the confusion, but it's pretty ugly.

1953+39 V1016 Cyg (Nc+M) In 1963 this star literally came out of nowhere in an unusual nova-like brightening. Since then it has remained nearly constant at ~10.5V. It doesn't make for a very exciting visual target, but if it ever makes a sudden change in either direction it will probably be a visual observer who alerts astronomers that it is again time to point more sophisticated instruments at this star.

1956+38 V337 Cyg (UG:) This is an enigmatic variable. Even its exact

position is not known for certain. I can tell you the field is just a skip and a jump from V1016 Cyg, and contains a distinct parallelogram of bright stars. The sequence is probably stated on the bright side. I've never glimpsed the 148 and the 140 is the faintest 140 observation I make every night. If you spot this one in outburst alert HQ right away.

1925+42 V1504 Cyg (UGSU) Nearly circumpolar here in Michigan, I get to observe this star a lot. It has normal outbursts in the 15th mag range, and superoutbursts as bright as 13.6 or so. The f scale chart has comps all the way into the 17th magnitude range, so observers with big scopes can follow this one down to quiescence.

1920+52 V1113 Cyg (UGSU) Another fairly active UGSU that is observable year round from northern latitudes. The cycle time between super-outbursts is rather short, around 190 days. The charts have a good Henden Summer sequence.

1924+54 V2176 Cyg (UGSU) Almost due north of V1113 Cyg is V2176 Cyg. Formerly known as USNO 1425, this one is a rare sight in outburst. Notify HQ if you catch it.

1958+56 V1028 Cyg (UGSU) Scooting to the east and a little north we get to V1028 Cyg. Reaching 13th magnitude in outburst, it should be easy to spot. This field can be confusing at first because of the similar triangular asterisms that abound in the area, so take your time until you get comfortable.

1947+58 V542 Cyg (UGSS) NW from V1028 Cyg is V542 Cyg. This is another system that gets to 13th magnitude in outburst. The charts have a good PEP(V) sequence from R. Stanton that make observing outbursts fun.

What do you mean you're tired? We've just past the half way mark. We're going to double back on the other side of the swan now to get to our next targets.

1958+35 V823 Cyg (UGSU) Not very much information on this star. The range is stated as 15.0p-<18.5p, so it must have faint normal outbursts and superoutbursts near 15th magnitude. I have never seen this one.

2001+32 V550 Cyg (UGSS) This one is an easy find, lying in the same field as a 5.7 magnitude micro-variable, V1768 Cygni. There are no AAVSO charts for this star.

2002+33 V1363 Cyg (UGZ:, pec.) Almost due north of V550, we find ourselves in a confusing heavily populated region of the sky. This little understood star has defied classification thus far. That alone makes it interesting to follow. Unfortunately, there are no AAVSO charts for this one either.

2020+33 V404 Cyg (XN) Sliding due east of V1363 Cyg gets us to the field of this X-ray nova. With previous outbursts in 1938, 1956, 1978 and most recently 1989, this one may be overdue for a visual outburst.

2048+43 V751 Cyg (NLAD) Usually hovering around 14th magnitude, this one occasionally and unpredictably fades to 16th magnitude. The last occurrence was in 1997-98. It's an easy find, very near the North America Nebula.

2043+41 V516 Cyg (UGSS) This is a fairly active star with several outbursts a year in the 14th magnitude range. The sequence has a significant gap in it from 128 to 141, right in the outburst range.

2008+42 V1316 Cyg (UG) A long awaited outburst would help to remove any lingering doubt about the position and identification of this variable. The AAVSO charts have an accurate CCD(V) sequence. The close 148 comp star has been identified as the variable in the past, so you might want to keep an eye on it too.

2023+43 V503 Cyg (UGSU) Just a nudge of the scope to the ENE lands us in the field of V503 Cygni. This UGSU has a very short cycle time between super-outbursts, around 90 days, so it is very active. The charts have a good Stanton PEP(V) sequence.

2103+36 V1060 Cyg (UGSS) Even though you can expect a couple per season, outbursts of this star are usually short lived, so they are easy to miss. The star gets into the mid-thirteens in outburst.

2104+36 V1062 Cyg (UG) A two for one treat, this variable is indicated on the same charts as V1060 Cyg. Unfortunately, the current charts do not show enough stars to positively identify the variable from its close 14th magnitude companions.

2131+39 V632 Cyg (UGSS) Being in the same low power field as 74 Cyg is a mixed blessing. It makes finding the star a snap, but the glow from its bright neighbor makes observing typically faint outbursts a challenge. It seems to have undergone a period of relative inactivity from 1997- 2000, but has recently come back to entertain us. The GCVS position of this star is way off, so please use the AAVSO charts to find it.

2131+40 V630 Cyg (UGSU) Another two for one chart makes the last part of the run seem to fly by. This star is fairly active and the sequences for both V630 and V632 Cyg are good PEP(V) measures, so positive observations can be made with a good degree of confidence.

2138+43 SS Cyg (UGSS) Now it gets even easier. Is there anyone in the AAVSO who hasn't observed this star at one time or another? Fortunately the 128 comp doesn't come in to play often, as it is far too red to be used as a comparison, with a B-V of 1.839. Variable star of the month for June 2000.

<http://www.aavso.org/vstar/vsotm/0600.stm>

2137+48 V1251 Cyg (UGSU) Directly north of SS Cyg and very close to the cluster M39, this one is a rare bird. The last outburst was in 1997. If you catch this one in outburst it will have been worth all the effort to make it to the end of the Cygnus Run. Take a break and notify HQ immediately.

6. MEETING VIDEOS

For those of you unable to attend the latest AAVSO Spring Meeting in Hawaii, many of the presentations are available online in MPEG video. The Membership/Director's Reports by Janet Mattei is available along with 18 papers presented at the meeting.

They can be downloaded at the URL below. Most computers built in the last couple of years; come with software that will play MPEG video.

<http://www.aavso.org/meetings/spring02video.stm>

The most recent Annual Meeting will also make it on the web site in the coming months.

For those who prefer a videotape copy of the video contact Charles Scovil at cscovil@earthlink.net. The tapes cost \$10 for North America and \$15 for overseas and are available in PAL or VHS. More details are available via e-mail.

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Good observing!

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