NOTES ON OBSERVING METHODS AND PROGRAMS FOR NEW OBSERVERS

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This paper is intended for new and younger observers in the hope that it will be of some help where personal contact with more experienced members is not possible. It contains most of the aids that I myself have found helpful. Initially an informal but still reasonably structured observing program is a great help for obtaining consistent results. My program consists generally of the basics that follow. The first consideration is the type of star chart to use. It is probably best for the new observer to use charts with key stars 5.8 magnitude or brighter, the brighter the better. Table I gives a list of some stars with AAVSO "b" charts that meet this requirement.

Table I, Some Variables Recommended for Beginners

001909	S	Cet	095814	RY	Leo	184205	R	Sct
004132	RW	And	122001	SS	Vir	191637	U	Lyr
004958	W	Cas	124204	RU	Vir	192928	TY	Cyg
021558	S	Per	141954	S	Boo	193449	R	Cyg
024136	TX	Per	142539	V	Boo	200938	RS	Cyg
024356	W	Per	143227	R	Boo	201647	U	Cyg
034323	BU	Tau	151731	S	CrB	202817	Z	Del
034625	U	Eri	153378	S	UMi	203816	S	Del
041619	T	Tau	155823	RZ	Sco	213843	SS	Cyg
042215	W	Tau	162119	U	Her	215934	RT	Peg
052404	S	Ori	163137	W	Her	221255	CP	Lac
070122	R	Gem	170215	R	Oph	230110	R	Peg
072708	S	CMi	171723	RS	Her	233815	R	Aqr
073723	S	Gem	175654	V	Dra	235659	WZ	Cas
094211	R	Leo	181136	W	Lyr			

After the key star is centered in the finder the star may be observed with the main instrument under relatively low power (50-75), and the chart oriented directly, using star patterns close to the key. The AAVSO "b" charts should be used to locate and estimate the variable when it is 11th magnitude or brighter, even with a 6" - 8" reflector. For fainter estimates a "c" or "d" chart can be used after the variable has been located. In the case of congested star fields, identification of the variable is all important and usually may be made by careful estimation of the star's position in relation to others in the vicinity. When estimating magnitude, it is important always to use more than one comparison star.

If no sufficiently bright key stars are shown on the charts the variable may be plotted on the monthly Sky and Telescope star map in white ink. First, however, locate the variable on the AAVSO Star Atlas, determine its approximate position relative to nearby bright stars, and then plot it directly on the star map using the letter designation of the star. If some other atlas is used that does not show the variable itself,

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plot the key star and proceed from that point. The variable may then be located by sweeping, or better still, with the aid of a good finder by noting helpful star patterns from the chart. Any variable star may be observed for several months or until it passes too close to the western horizon for good observations.

It is generally better not to try to observe during times when the moon is bright unless the variable is quite a distance away. A few nights around full moon it is possible to observe either in the early morning or early evening.

It is helpful to set one's self a minimum number of observations each month. It is encouraging when this is exceeded, and soon it may be set a little higher. If the minimum is set at 10, 24, or 50, for example, it must be realistic as the quality of observations must not suffer. As the regular stars on your program transit and move westward, new ones rising in the east may be added. This helps to add new stars in a regular way, and keeps one's stars at a more or less constant number. Mira variables may be observed at 10-day intervals, while the irregulars should usually be observed at each opportunity.

After gaining some experience, one may observe as many variables as possible that are "requests" from Headquarters as well as those published in the AAVSO Circular (an inexpensive monthly publication edited by John Bortle, that is particularly informative as to current status of eruptive and other special variables). Some types of stars, particularly those of small range in brightness, may require a great deal of observing experience. They should not be attempted until the necessary skills have been acquired with the Mira and irregular variables of large magnitude range.

In the interest of saving time it is profitable to use the "AAVSO Predictions" at the beginning of each month to see if program stars are too faint for good observation. Also, if possible, the observer should make a point of making early morning observations, because Headquarters receives fewer estimates during these portions of the stars' light curves. It is also much quieter as well as darker in these early hours (unless you have mercury lights near your observing area!).

A beginner might find the binocular variables with "a" or "ab" charts very easy as well as instructive to observe. This does give the observer time to think about what he or she is doing and reflect upon it, something most of us enjoy.

Lastly, the new variable star observer must remember one thing - it's quality that counts first, not quantity. That comes with time.

References

Mayall, Margaret W. 1970, Manual For Observing Variable Stars (Revised ed.; Cambridge, Massachusetts: American Association of Variable Star Observers).