The Variable Star Section – news of the Mentoring scheme

by Karen Holland

From the Section Director

Recently the BAA Council has been considering ways to help new members and particularly new observers to get started in their chosen area. To this same end, the Variable Star Section has been running a 'mentoring' scheme for a few years now, and the following article by Karen Holland is a description of how it operates and how useful 'mentees' (and in some cases, mentors!) have found it.

Whilst setting up such a project is extremely simple and straightforward, the Variable Star Section would be very happy to advise other Sections who might wish to initiate similar schemes. Similarly, it is hoped that new observers will consider asking their Director for help in the manner described below.

Roger Pickard, *Director, Variable Star Section*

Introduction

The Variable Star Section Mentoring scheme was set up in late 2002,[1,2] with the intention of providing much-needed support and guidance to new visual observers, or to those who might wish to try their hands at variable star observing, perhaps coming from another field. The point of the scheme was for the mentor to provide support and guidance with any difficulties or areas of uncertainty that the observer might have during the early stages of observing.

No specific format or guidelines were set up for the form that the assistance should take, as observers' requirements vary widely; it was also felt that a light-touch approach was the most appropriate for such a scheme. In some cases, observers who were already capable of making good visual estimates, simply wanted some reassurance regarding the quality of their observations before they started submitting them to the database, and in this case, the encouragement required from the mentor was likely to be relatively simple, and the mentor/mentee arrangement short-lived. On the other hand, some observers wanted a great deal more advice regarding target selection and observing techniques, and might need instruction over a longer period of time before they felt confident regarding the quality of their observations.

The administration of the project involved finding a number of experienced observers who were willing to volunteer to act as mentors to newcomers; then as observers requested help, they were allocated a mentor, and encouraged to make contact with them.

Some mentors agreed to advise by telephone, or email only, whilst others offered real observing sessions, if the mentee lived nearby, or was willing to travel. In practice, unless an observer specifically requested a particular mentor (which has happened in a number of cases), then an effort was always made to choose pairs who lived as close as possible to each other. However, because the geographical distribution of mentors is not ideal, this was not always possible.

Progress and growth of the scheme

The scheme really got under way in 2002 with a total of 15 visual mentors willing to help. We found that experienced VS observers were always very keen to assist new observers, and as a result, we have, to date, always had more mentors offering assistance than mentees for the visual scheme, as seen in the graph in Figure 1. The number of observers seeking a visual mentor grew rapidly over the first couple of years.

It became apparent that the visual scheme was a success, in that a substantial fraction of the mentor/mentee pairs were reporting positive results from the arrangement. We decided that, as a number of key observers were becoming proficient at CCD photometry, we should extend the scheme to provide CCD mentors, which we did in 2004 December.[4] The aim was to provide newcomers to CCD photometry with the help that they needed to learn the basic techniques for good photometry, guided by a more experienced observer, who might not know the answers to all questions, but who might be more confident at establishing good practice.

For the CCD mentoring scheme, however, there are slightly more mentees than mentors, meaning that one or two mentors are assisting more than one person.

Figure 1 charts the growth of participation in the scheme. It should be noted

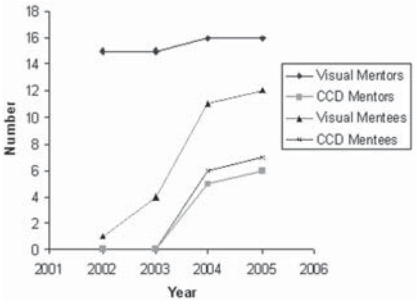

Figure 1. The growth in numbers of mentors and mentees since the scheme began in 2002.

that although the Section asks that potential mentees request a mentor through the scheme co-ordinator, Karen Holland, many more informal mentor/mentee relationships have been set up since the scheme began. As the only reason for having a central coordinator was to maintain records to monitor the success of the scheme, and to attempt to collect feedback in an effort to improve the service, the Section has been happy to encourage such informal relationships to flourish, without necessarily adding them to the list; hence it is believed (though impossible to prove) that the scheme has encouraged many more pairs to be formed than is evident in Figure 1.

Another reason for asking for mentee/mentor relationships to be set up through the coordinator, was to try to distribute mentees evenly, so that no single mentor ended up with too many observers. Again, the informal relationships that seem to have been encouraged since the scheme began are self-regulating, in that no mentor will take on more mentees than can be maintained, although it does mean that some mentors have not yet been allocated a mentee, whilst others have more than one.

Feedback and results

One of the first new observers to be allocated a mentor was Janet Simpson (pictured), who became my student in 2003. Janet began observing initially with binoculars, and after a quieter period during her house move to Scotland, where she now runs a B&B, she is actively observing again, and setting up an observatory for a telescope. Figure 2 shows how competent an observer Janet has become in a short period.

Janet has written an article[3] describing some of her experiences and thoughts regarding the scheme. She concludes: *'I feel the VSS Mentor system has given me direction, and the means and encouragement, which gave me the confidence to get started and a way of checking my results are on track; and a friend.'* I certainly feel that I, personally, have gained a great deal from acting as a mentor.

Des Loughney initially joined the scheme after requesting a CCD mentor, but after further investigation, decided that he was not currently in a position to obtain a good CCD camera. Through mentoring by Gary Poyner he managed to stretch his visual magnitude limit substantially. He comments: *'Following Gary's advice, I bought a Radian eyepiece. I used to think that, with an 8-inch reflector, I could only see stars down to a magnitude of 12.5 in suburban skies. Following Gary's recommendations, I have already been able to get down to magnitude 13.2 observing W Lyrae using AAVSO chart 1811+36d; I managed to see the star marked 132 on the chart, but not its faint companion, which Starrynight Pro gives as magnitude 13.85. This observation was made during the light summer months, and in the new season just starting, I am optimistic that I will be able to see down to 14. This will allow me to do much more. I will be able to tackle binaries such as RW Tauri with more confidence.'*

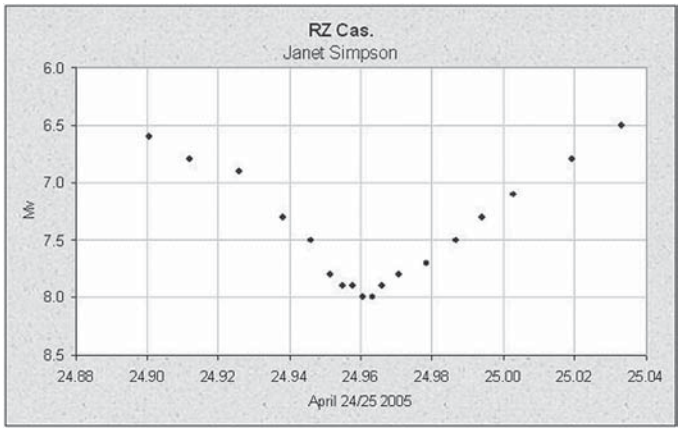

Figure 2. Janet Simpson's visual observations of an eclipse of RZ Cas.

Jeremy Shears received much useful advice from several sources whilst becoming quite expert at CCD photometry and imaging. He comments: '*I had some experience of CCD imaging of deep sky objects for pleasure, but I wanted to achieve some more scientifically useful results from my work. Having attended the BAA Pro-Am symposium on CCD photometry at Northampton in 2004 May, I was stimulated to investigate variable star photometry. I made my first attempts in the autumn of 2004 and have been climbing the learning curve ever since. Throughout this period I have received copious technical advice, both on photometric techniques and general variable star science, as well as encouragement from many members of the BAA Variable Star Section. This support has been invaluable in learning the ropes and I would especially like to thank Roger Pickard, Gary Poyner, Richard Miles and Guy Hurst. Many others have been generous with their advice and time along the way. There is indeed a lot to learn when starting in CCD photometry, but it's certainly very helpful to be able to tap into such a vast pool of expertise – without this the learning phase would have been much more painful!'*

The plot in Figure 3 demonstrates the quality of data that Jeremy has achieved, little more than a year after beginning CCD imaging. Figure 4 shows one of Jeremy's images taken for the Recurrents Objects Programme.

Comments that I have received regarding the scheme, indicate that mentors feel that their mentees have benefited from the scheme, and that they too have made good friends, and benefited in the process. Meanwhile Dave Storey, on the Isle of Man, has taken the brave step of adopting five local observers as his visual mentees, and we eagerly await news of their progress!

John Howarth (a visual mentor), commented: *'I feel the mentoring scheme is look-*

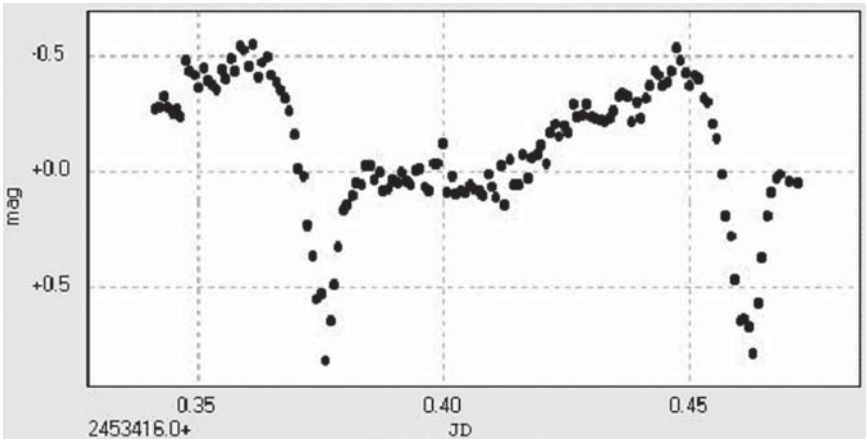

Figure 3. CCD photometry of the deeply eclipsing dwarf nova DV UMa, 2005 Feb 14, 20:10 to 23:19 UT. Two eclipses can be seen during which the brightness dropped from about mag 14.2 to 15.5. Takahashi FS102 102mm refractor, Starlight Xpress MX716 CCD camera, unfiltered. Each data point represents photometry on a single 1 min CCD exposure. *Jeremy Shears*

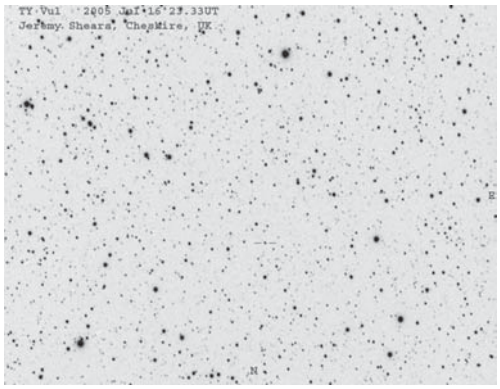

Figure 4. Outburst of TY Vulpeculae on 2005 July 16, 23:33UT, unfiltered 2 min CCD exposure (equipment as Figure 3). The field is 25' by 19'. TY Vul is a dwarf nova on the BAA VSS Recurrent Objects Programme. Photometry showed it to be at mag. 15.10C. *Jeremy Shears*

ing good, and well worth doing for both mentee and mentor. It has got me interested in types of observation that I had either not tried before or given up on.'

Gary Poyner (a visual mentor) had the following comment regarding the scheme: *'I think for a scheme like this to work to its full potential, both need to live quite close to each other. It's important to be with the person to pass on any comments/suggestions whilst you are observing. I know this happens a lot in the AAVSO, where a similar scheme has been very successful for years. E-mail is OK, but it's just not very personal. It's impossible to show someone how to do something over the ether!'*

Future plans: the analysis of VS observations

John Howarth, who is well known for his articles on the analysis of variable star observations, has suggested the scheme be extended to mentoring others who are possibly more interested in this aspect than in observing. Therefore, if there are any members who feel they would like to know more about this they should contact either Karen Holland or the Director. In addition, those who feel they could help by becoming mentors themselves should also contact either of the above.

Conclusion

The scheme was originally set up in response to a valid criticism made by a Section officer (Tony Markham) that we were not doing enough to help new observers. It seems that the scheme has been very successful in this respect and much valuable assistance is being made available to those who are willing to accept it.

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References

1 *J. Brit. Astron. Assoc.*, **113**(2), 115 (2003)
2 VSS *Circular,* **114**, 13 (2002)
3 *ibid.*, **120**, 10 (2004)
4 *ibid.*, **122**, 25 (2004)

BAA Awards and Medals for 2006

Early in the new year Council will consider nominations for the Association's Medals and Awards for 2006. If any members wish to nominate a fellow member for some notable contribution, please send a suitably worded citation to the Business Secretary no later than 2006 February 10. All nominations must be in writing and signed by two sponsors. Please try to confine citations to one side of an A4 sheet of paper. Thank you.

Conditions relating to each award are given below. Members are requested to read the conditions carefully and to ensure that citations comply with the conditions for the relative award. A list of previous recipients of the awards may be obtained from the Business Secretary.

The Walter Goodacre Medal and Gift

'This award ... is the senior award made by the Association. ...Normally awarded at intervals of not less than two years and not more than four years since the last award.

'The award shall be given in recognition of the recipient's contribution to the progress of astronomy over many years, special regard being had to his or her work communicated to the Association, this work being communicated in any form, and not necessarily in writing, provided that the recipient is a member of at least five years standing in the Association at the date of the Annual General Meeting in the year of the award.'

Merlin Medal and Gift

'This award shall ordinarily be made not more than once in any year and not less often than once every five years... It shall be made in recognition of a notable contribution to the advancement of astronomy. If two or more persons have been jointly concerned in any particular work, a joint award may be made, in which case each recipient shall receive a medal and gift.'

Lydia Brown Medal and Gift

'This award shall be made at the discretion of the Council. [It] shall be in recognition of meritorious service to the Association in an honorary capacity over many years on grounds which would not qualify a nominee for either the Walter Goodacre or Merlin Awards. If two or more persons have been jointly concerned in any particular work, a joint award may be made, in which case each recipient shall receive a medal and gift.'

Steavenson Award

'This award shall be made at the discretion of the Council. It shall be awarded to a member who has made an outstanding contribution to observational astronomy.'

Horace Dall Medal and Gift

'The award shall be made at the discretion of the Council but not more than once in any calendar year. It shall be made to a person, whether or not a member of the Association, who has shown marked ability in the making of Astronomical Instruments. If two or more people have been jointly concerned in a particular work then each person may receive a medal and gift.'

Ron Johnson, *Business Secretary*