David Levy's guide to variable stars

by David H. Levy

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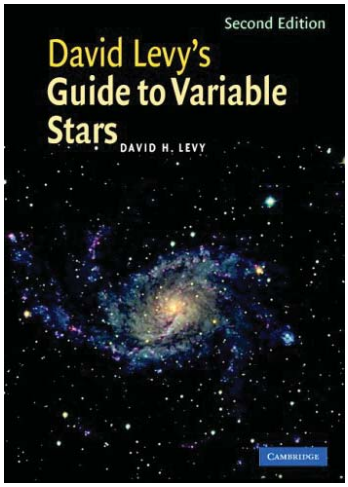

David Levy is a renowned astronomy writer whose enthusiasm for his subject is infectious. He is also a keen observer and comet hunter, the co-discoverer of comet Shoemaker–Levy 9 which crashed into Jupiter in 1994. This book is an updated version of his original *Observing Variable Stars,* with two new chapters, and additions to four others. It is geared towards the beginner, with a natural bias to the American market, and would be a worthy addition for any astronomical society's library.

I really enjoyed reading this book and certainly wish I had found a copy three years ago when I started observing variables. I was interested for example to read of the recurrent nova T Coronae Borealis which I will now be aware of when checking R CrB. The emphasis throughout is on observing, and scientific explanations are kept simple.

The book is divided into four sections, each with a number of subdivided chapters. It starts with a general introduction to finding your way about the sky, choosing equipment and learning to see. There is an interesting project, which I have tried, putting the seven stars of the Big Dipper in order of magnitude. It is suggested to keep doing this, and to notice if a hazy or moonlit night makes the order appear to change. I found this very relaxing before starting an evening's observations.

Part II, 'Getting to know the variables', by far the longest section, covers a range of subjects. It introduces the reader to four main categories of stars, pulsating variables (Cepheids), Miras, eruptives and eclipsing binaries. Basic exercises help the beginner build confidence in estimating variables, leading on to the AAVSO and other methods, and recording and submitting observations. A range of observing hints includes a warning about the Purkinje effect, the importance of patience and comfort, and advice about frequency of observing different types of stars. Pogson's bisected chords are also tucked in here!

An introduction to CCD observing follows, before Levy inspires us with some idea of the huge variety of star behaviour, in chapters on different types of stars, both easy and challenging. Last is a chapter on the Sun, following 'Other variable things' which covers for example, variable nebulae, gamma ray bursts, blazars, and 'AM Herculis stars, or polars'.

To help the reader plan an observing programme, Part III contains stars not described elsewhere, divided into seasons and rated 1–5 according to difficulty. Obviously invaluable for the complete beginner, this section could also be useful for a transition from binocular to telescopic variables, and possibly beyond. I did find that W Persei (p.163) and U and W Orionis (p.166), had different level ratings in the individual star notes, to the list at the end of the chapter on p.175. Hints for cold weather precede the January to March stars. A selection of prominent southern hemisphere variables is included.

The last section is a miscellany of John Goodricke, the AAVSO past and present, and Leslie Peltier (whose book *Starlight Nights* inspired me to take up variable star observing), finishing with a bibliography, glossary, the Greek alphabet and constellation abbreviations. Sadly omitted from the bibliography 'Going further', are the two most recent general books on variable stars by Gerry Good and Gerald North, and John Isles' *Variable stars* from the Webb Society series, collectively perhaps the most useful volumes to lead on from this book.

It seems a pity when updating not to have changed the AAVSO charts for Z Camelopardalis and U Geminorum on pages 121–124, which were replaced in 2003/4. Having said that, the new TV Corvi chart on page 116 did not reproduce well. A chart referred to in the text on page 87 appears to have been left behind in the previous edition!

Illustrated with some interesting lightcurves, many finder charts and a few photographs, this inspiring introduction to variable star observing gives the beginner an excellent start and an incentive to investigate further. It has brought some interesting stars to my notice.

Janet Simpson