

The Night Sky Observer's Guide

Volumes 1 and 2

by George R. Kepple and Glenn W. Sanner

c. 1998 by Willmann-Bell Inc.

Vol. 1: 430 pages, Vol. 2: 506 pages (hardbound)

by David Knisely [click to email author](#)

Celestial guide books and reference materials tend to run a little on the basic side for many intermediate to advanced amateurs. There is the venerable 3-volume BURHNAM'S CELESTIAL HANDBOOK, but it is starting to be a little outdated as well as not well serving the needs of those who are really "going deep". With this problem in mind, amateur astronomers George Kepple and Glenn Sanner started putting together material from their own observations as well as from a few others which eventually evolved into the 2-volume set THE NIGHT SKY OBSERVER'S GUIDE (often referred to as the "NSOG"). What

resulted from this effort was a massive reference work which serves fairly well as a guide to much of what is visible in "the Deep Sky". It contains a great deal of descriptive and reference information in a suitable format for both desk and field use, although like many astronomical guidebooks, it is not exactly flawless.

Description

The Night Sky Observer's Guide is a nice hardbound 2-volume set of extensive observational details for deep-sky objects and some prominent double stars in 64 constellations at least partially visible from North America (the constellations located south of about -60 degrees declination are not covered). Each volume is about 11.25" x 9" in size and weighs about three pounds. This might make some people think of them as a bit on the large side for routine use at the telescope, but I do frequently use both volumes without any real problems when observing in the field. The printing is good and most of it can be read by the light of a red flashlight, although some captions of the images might occasionally be harder to read at low red light levels. Volume One contains a preface and extended introduction, followed by 29 chapters covering the details found in constellations mainly visible in Autumn and Winter. It also has a set of three appendices on the Local Galaxy Group, Meteor Showers, and the Editors and Contributors. Volume 2 has the next 35 constellation chapters covering those visible in the Spring and Summer. Each constellation chapter contain a brief overview of the constellation, a highlight of some of its interesting stars, some tabular data on the prominent double stars, and an extensive descriptive coverage of many deep-sky objects as seen in various apertures. The numerical data for each object discussed is also provided with the verbal description. There are also large-scale star maps on the front and back inside covers of each volume to aid in locating the constellations and the regions covered by the smaller-scale star charts found in each chapter.

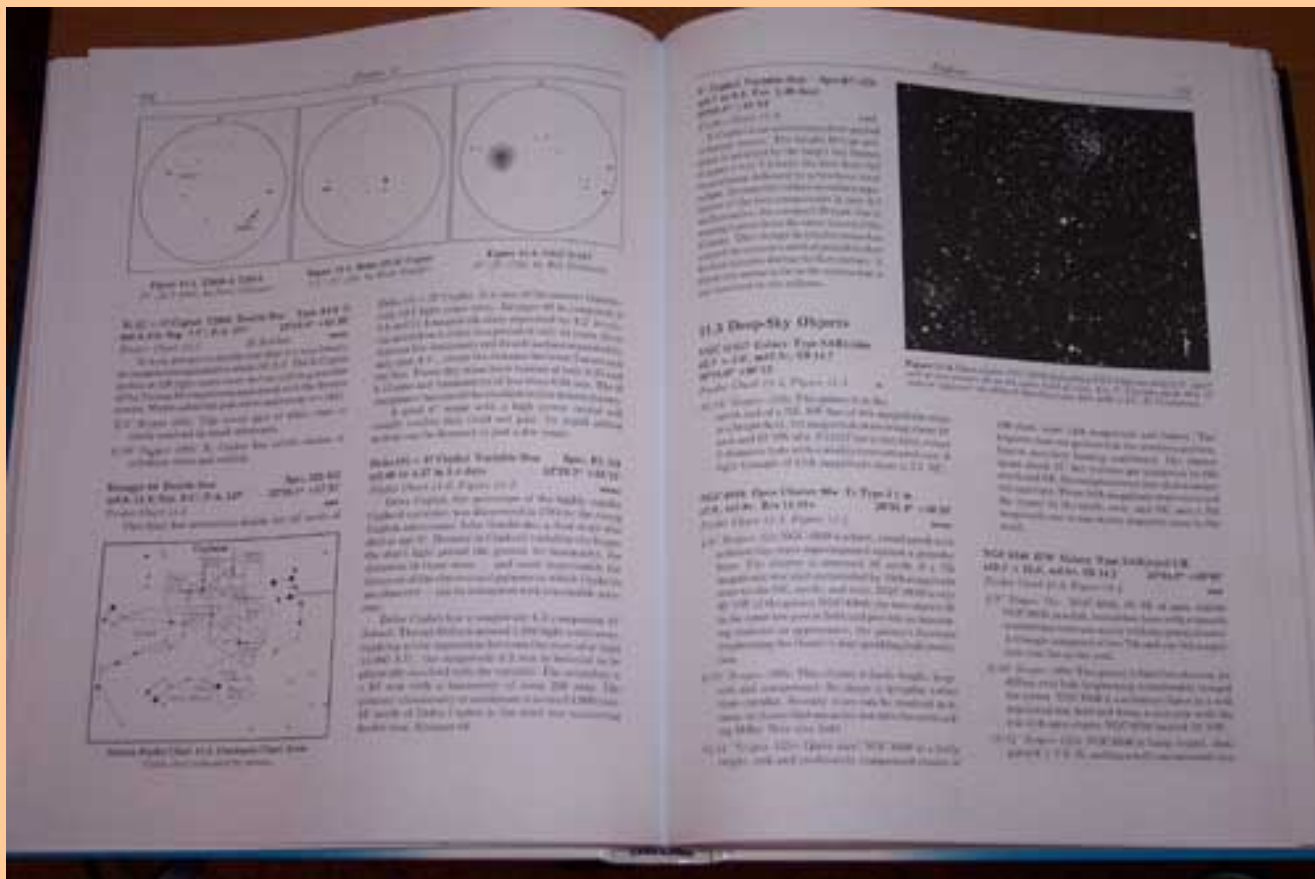
The Night Sky Observer's Guide can be used to help plan future observing sessions as well as acting as a reference while observing or later on when recording observations. From the wording and overall tone, the NSOG appears to be directed somewhat more towards the needs of the intermediate to advanced amateur. However, the books do contain information which even the new deep-sky observer might find useful. The biggest reason to get these books, however, is the sheer number of objects included in the work. NSOG covers over *3000* deep sky objects, ranging from most of the bright and easy ones (like those in the Messier catalog) to some which are a real challenge even in large telescopes. It also covers 2104 double stars and 433 variable stars, so there is definitely a lot to choose from. Most amateurs will use the work to both help find objects and to get an idea of what they might look like. I generally use NSOG to help me decide what I might want to look at when I am out observing, so for me, it's kind of a reminder or just a list of interesting potential targets rather than a guide to locating things. The detailed descriptive information for the deep-sky objects is probably what most amateurs will find the most interesting and useful. The two volumes also provide many images, drawings, and a number of small scale star maps to aid in finding some of the objects described, although the user would still be advised to have a good star atlas handy when using the NSOG. The amount of information and the wide range of object coverage might make the NSOG seem a little daunting to the beginner, but material expressly intended to help out the novice observer is presented in the first chapter.

The NSOG in Detail

The Introduction by Craig Crossen contains a nice summary of the true scientific nature of many of the objects mentioned in the NSOG. More in-depth than in many other observing guides, this section of the book was an interesting read, covering just a little of the Astrophysics of the stars, including spectral types and stellar evolution. The various types of variable stars are covered before getting into the area of interest for many amateurs, namely, star clusters, nebulae, and galaxies. With this nice introduction, NSOG has a little in common with the first portion of the venerable Burnham's series, although as a whole, the book is more a strict amateur observational guide than the somewhat more general work of prose that Burnham's tends to be.

CHAPTER 1

The first chapter explains the layout of the rest of the two volumes, as well as providing some detail into how to interpret what is presented. Here, the topics of astronomical catalogs is dealt with, along with various terms which the observer might need to know something about. In particular, the Dreyer code for the NGC objects is explained and discussed. Some good information about telescopes, accessories, and observational techniques is presented, along with tips for the beginner. There is a lot of useful advice here on techniques and recording observations, as well as sketching what the observer might see at the telescope. In short, this first chapter does provide much of what the person new to the hobby might need to understand when "going deep" for the first time.



The Meat of the Book (Constellation Chapters 2 through 65)

The chapters on constellations offer a wealth of objects worthy of observation by the amateur, and it is here that the books are at their best. Each chapter is divided into several sections. The first is a brief overview of the constellation with a little on the mythology behind it. The second section highlights interesting stars, such as bright or unusual double or variable stars. A wide-field chart of the Constellation and its surroundings is then presented, with many of the major stars and brightest Deep-sky objects labeled (stars shown down to 5th magnitude). This chart is primarily a guide to the more prominent double and variable stars in that constellation, and is also useful as a reference for the more numerous "Finder Charts" found later in each chapter.

Next, tables are provided for selected variable stars and selected double stars in the constellation. The brightest variables are shown with their numerical details (name, type, brightness range, period, ect.), which can act as bit of a springboard into the sub-hobby of variable star observing, although detailed comparison star magnitudes on the finder charts are not usually provided in the books. A large numerical listing of the more prominent double stars in the constellation comes next (location, magnitudes, separations, and even a few spectral types). In some cases, doubles with notable color contrast are also flagged in the "notes" portion of the table, which can be of some help to those looking for a little "color" in things. There were a few errors in the double star data (Gamma Virginis for example), but they were not terribly frequent. These errors may not be the fault of the books, as a few doubles are relatively short period and change separation or position angle markedly with time, while in other cases, even a few double star data sources can be suspect with regards to their accuracy.

The third section is "Deep-Sky Objects", which provides the data and descriptions of the deep-sky objects in the constellation. A number of smaller-scale finder charts are provided for certain star fields to aid the amateur in finding the objects noted and described in the book with stars shown down to around 9th magnitude. For comparison, Sky Atlas 2000's main charts only go to magnitude 8.5. The star dot size for the faintest ones in the NSOG small-scale charts seemed a bit large, which might cause a little misinterpretation by users as being brighter and standing out more than they probably do on the real sky. Again, a comprehensive star atlas like Uranometria 2000 can be a vital tool to use with the NSOG.

The objects are listed with their identifiers (sometimes several identifiers), and to the author's credit, the objects in the Herschel Observing projects are listed with their proper Herschel numbers. The objects' type, coordinates, angular size, magnitude, and, in some cases, surface brightness are all provided, followed by often extensive verbal descriptions as seen in anywhere from one to four different telescope aperture "ranges". These ranges are not applied to all objects equally, with comparatively few observations logged in the 4/6" aperture range, somewhat more in the 8/10" range, and a great number being in the 12/14" and 16/18" ranges. In some cases, the choice of aperture range cited is not extremely consistent with the object's difficulty, suggesting that observations of many of the objects were not available for certain apertures. The occasional lack of descriptions in the 4/6" and 8/10" aperture ranges could potentially give the newbie the incorrect impression that only large apertures are suitable for the object being described, although this is probably unintended. Photographs and/or drawings are also provided for many of the objects being discussed in the descriptions. One rather notable image is of M31

with the globular star clusters and some of the stellar clouds and associations labeled. However, sometimes the drawings may not quite match the appearance of the object. One example is the sketch of Gamma Andromedae, which shows merely a field of stars with no indication which of the dots in the drawing is the famous double star. Still, for the most part, these drawings can aid in identifying what the observer is seeing as well as giving the reader a rough idea of what to expect at the eyepiece.

The format of NSOG is a formula for a very useful work, one which could be of use to others who are putting together observing guides. These volumes provide significant numerical and descriptive information on a number of objects which are sometimes barely mentioned in other texts (or are just given mere numerical data on). At the very least, these two volumes will give the amateur with a moderate to large aperture a large list of potential targets to go after. The objects are also given a rough "visual rating" from one "*" (very faint) to five stars (Showpiece Object), which can be useful in deciding what might be worthy of observation in a given aperture. Each description generally tells what the object looks like (shape, size, numbers of stars, details), as well as mentioning any other objects, prominent stars, or asterisms in the field. With any descriptive account, there will always be some differences in what various observers report, so some more experienced observers may occasionally see a noticeable difference between the NSOG descriptions and what they generally see when viewing the same object. Most of the time, the descriptions were reasonably accurate and useful, although with some of the brighter objects, the occasional lack of descriptions at the 4/6" and 8/10" aperture levels might cause a little frustration for someone wanting to observe the object with a modest telescope. The coverage of objects is quite good, although a few slipped through the cracks, such as Barnard's Loop (Sh2-276), which is plotted on one of the finder charts but is not described.

Problems with the NSOG

There are a number of difficulties with certain statements made in the NSOG. These generally fall into two categories:

1. Incomplete understanding or coverage of certain equipment/tools used in observing,
2. Differences in descriptive material from observations made by others.

1. Incomplete Understanding/Coverage of Certain Observing Equipment/Tools.

This shows up particularly noticeably when it comes to the subject of Nebula filters, where the book merely mentions them in passing rather than covering them more completely in a logical place like Chapter 1. In his otherwise fine introduction, Craig Crossen puts out a few misconceptions concerning how nebula filters are used (mentions "H-alpha" filters for visual use, which doesn't work, as the dark-adapted human eye is nearly blind to faint H-alpha light). While the use of certain nebula filters is mentioned in the descriptions of some nebulae, their use for a larger number of emission nebulae is not mentioned nearly enough. The apparent lack of proper understanding of filter use also shows up later on in the descriptive part of the book, when a recommendation for using the OIII filter on the Horsehead

Nebula is given (it actually **vanishes** if you try the OIII on it). A few items like reflex finders (Telrads, ect.) are also not mentioned in Chapter 1, and some of the other topics are occasionally presented in a fashion which may be a bit misleading (eyepieces and dark adaptation).

2. Differences in Descriptions from Other Observations:

In most cases, there will be understandable differences between what various different observers report when describing an object. However, in the NSOG, this occasionally reaches a rather noticeable level. The trend for at least some of the descriptions in NSOG seems to be a bit on the "pessimistic" side, which, along with the occasional lack of observations in the 4/6" and 8/10" aperture ranges, tended to contribute to the perception of a sort of mild "large scope bias". This "bias" also seems to show up in the introduction where this statement is made: "Hence globulars are not good small telescope objects; the best northern sky globulars, M13 in Hercules, M3 in Canes Venatici, and M5 in Serpens, require 8-inch instruments to begin to look like the showpiece objects they are". This is somewhat of an overstatement, as these objects can be easily seen in small telescopes and show huge numbers of stars in scopes as small as 6 inches. One example of the "pessimism" is with the description of M2: "8/10" scopes-100x: Messier 2 has a bright, well compressed 5' diameter halo with a suddenly brighter center. Though it is unresolved, its perimeter is mottled and show two stars on the SE side." At moderate to high power, M2 resolves nicely in an 8 or 10 inch, and shows many stars even in a 6 inch telescope. Views I have had of M2 in a 10 inch are quite stunning, so one must wonder why the authors seem to imply here that M2 is "unresolved".

In a few other cases, the descriptions may be overly **optimistic**, which might lead the beginner to wonder why they can't see certain detail in an telescope in a size range where that detail is described in the NSOG. One example of this is in the description of the Andromeda Galaxy, where a statement in the 4"/6" description reads: "Many faint stellar objects are visible throughout M31; these are globular clusters and HII regions which deserve to be studied in greater detail with a large telescope." This could be rather misleading, especially to the beginner, as most of the many points of light visible across M31 in common amateur telescopes are **stars in our own galaxy**, and **not** globular clusters (most of the M31 globulars are not visible in a six inch aperture). It is this variability in the descriptions which could be a potential headache to those who are new at Deep-Sky observing.

Some of the descriptive variability can probably be attributed to the variety of contributors, and this may also be part of the reason for the inaccuracies concerning filter use, as well as the reports of detail in certain objects. In fact, it might occasionally have lead to a few outright errors. One example of this is with the edge-on galaxy NGC 4111 in Canes Venatici, where the book states: "...Averted vision reveals a dust lane." This is a case of "wishful thinking" when it comes viewing faint objects. In reality, NGC 4111 has **no** dust lane, as can be verified by looking at its images in both the Palomar Sky Survey as well as high-resolution images of NGC 4111 taken with the Hubble Space Telescope. In many cases, edge-on galaxies with brightness profiles similar to this one do sometimes show dark dust lanes across their cores, so this "observation" of a dust lane appears to be a case of the mind of one observer putting-in nonexistent detail.

Some of these problems may be an indication that the authors might have relied just a little too much on the contributions of others without doing more of their own research and observations to check things for themselves. These problems do detract from the overall quality of the NSOG to some degree, but they are not a fatal handicap, and overall, the work does not suffer excessively from them.

Evaluation

Is the The Night Sky Observer's Guide a fairly successful and decent work? For the most part, the answer is "yes". The authors seemed to have succeeded in putting together a guide which has extensive coverage while at the same time presenting it in a very usable format. In fact, the format can be a little more helpful for both finding and observing Deep-Sky objects than those present in some other guidebooks (especially when the needs of the beginner are considered). The problems that the NSOG has, while noticeable and unfortunate, do not invalidate the work. This guide is probably best used by amateurs with a little experience, although the new observer will eventually want to get them as they go deeper into viewing the wonders of the night sky. The NSOG is best used with a good companion atlas, although it can be used on its own to some degree by relying on the starmaps and findercharts provided in the text.

Summary

The Night Sky Observer's Guide is a comprehensive and useful 2-volume work for those interested in viewing the wonders of the Deep Sky which will probably find its way onto the bookshelves of most deep-sky observers. It is an extensive source of information and provides a good list of potential observing targets, although users should be aware that there may be a few descriptive problems which should be kept in mind when interpreting what is stated in the text.

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