Preface

Galaxies have fascinated me since I started visual observations with a small 4 in. Newtonian reflector around 1966. Pretty soon all Messier objects were "checked off," and new targets had to be chosen. I marched through what might be called the "natural sequence" in the career of a visual observer: Messier, NGC, IC and UGC objects came out of the dark – glimpsed with growing apertures: 4 in., 8 in., 14 in., and finally 20 in. Over the years I've learned to be modest, concerning both targets and instruments. Each step in the sequence must be accompanied by a certain growth of knowledge concerning the physical nature of the targets.

I've also learned that blind faith in catalogues and their data can cause frustration. In the early days, it was not easy to get the relevant information. I was, for instance, fascinated by the entries in my old *New General Catalogue*: what's behind all these anonymous numbers? In my wildest dreams I wished to have access to the *Palomar Observatory Sky Survey*. In naked reality, however I must live with an old-fashioned sky atlas, showing stars to 7 mag, with a few galaxies plotted. Thus, to light up the dark, one has to be inventive! Over the years, using all kinds of articles and images available, numerous handwritten lists were created. Based on this stuff and ongoing observations, a more detailed picture of the sky and its objects could be painted.

This is long ago. Nowadays everything is childishly simple – and perhaps much less exciting! If you want to know for instance all about VV 150, switch on your computer, try Google, Guide, NED or ADS (you will later see what's behind these abbreviations), and pretty soon you will be covered with tons of data. Unfortunately, this does not automatically imply that you will be successful at the telescope. Technique, dark sky and a lot more is needed – not to forget experience!

It was in early 2003, when I got in contact with Mike Inglis, a professional astronomer, and author of some popular astronomy books, who asked me to write a book on "galaxies." It was easy to comprehend that this inquiry met my very interests! Thus it was only a matter of a few formalities before I started writing. And here is the result, which hopefully shows a bit of my affection for these, often inconspicuous, but always fascinating building blocks of the universe.

I would like to thank some people for their valuable support. First of all, I have to mention my wife Gisela, who contributed through her patience and valuable advice. Next are Mike Inglis, John Watson and Harry Blom who made it possible to write this book. Special thanks goes to Rich Jakiel – one of the most experienced observers in the United States – for his keen proof reading. He critically checked my text, concerning language, form and content. He also added some new aspects and information and nevertheless contributed many valuable observations.

Finally, I would like to thank other keen observers from all over the world, who offered their results for presentation. A large number of visual descriptions given here

are based on their work. Particularly I would like to mention Steve Gottlieb and Steve Coe (both United States), Jens Bohle (Germany) and Magda Streicher (South Africa). The book presents a number of high-quality amateur astrophotos. These are due to Peter Bresseler, Werner E. Celnik, Bernd Flach-Wilken, Torsten Güths, Bernd Koch, Gary Poyner, Cord Scholz, Rainer Sparenberg and Volker Wendel. Hope to meet you all at the next star party!

Wolfgang Steinicke
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I grew up during the 60's and I fondly recall the excitement and high tension of the space race. It no doubt helped fuel my passion for the stars and I spent a great deal of time in the public library perusing the latest astronomy magazines and books. By the early 70's, I had become an avid star gazer, using a rusty old pair of 7 x 35mm Zeiss binoculars to explore the heavens from my backyard. In 1974, I got my first real telescope – a $4\frac{1}{4}$" Newtonian on a German Equatorial mount as a Christmas present. The first objects I saw were Jupiter, M42 and M31. I was totally hooked, and within a year I had seen several hundred new astronomical objects.

I quickly graduated to an 8-inch Cave reflector, which was to become my main instrument for the next ten years. With that relatively modest instrument, I observed nearly 2000 objects, and made detailed sketches of many of the brighter galaxies. Eventually, I moved up to using ever larger telescopes and my interest in astronomy deepened far beyond the mere observation of astronomical objects. Over the decades, I would observe thousands of galaxies, clusters, nebulae and double stars, plus write over 50 articles for a wide range of astronomical publications. This transition was in no doubt helped by the coming of the internet and vast online databases. I now had easy access to journals and references that were normally found in large university libraries. In time, I not only became interested in the structure of galaxies, but also their classification, formation and distribution in space.

In this lifelong astronomical journey, I've had a lot of help along the way. My mother was very instrumental in getting my "feet wet" in the sciences, through her gentle encouragement and many trips to the public library. Later on, Ernst Both (director of the Buffalo Museum of Science) gave me my first views through the telescope, and would become a life-long friend and mentor. I've also gained valuable experience, friendship and contacts as first a member of the Buffalo Astronomical Association (1980's), and later the Atlanta Astronomy Club (ACC). I'm still a very active member of the AAC, and fondly remember my many observing sessions with the "deepsky zombies". And finally, I'd like to give a big thanks to Wolfgang Steinicke for giving me the opportunity to first edit, and then add a number of new sections to this book. Co-authoring this book has been a very interesting experience and one I hope to repeat again in the near future.

Richard Jakiel