

The Observing Guide to the Messier Marathon

The Messier Catalogue is a list of 110 galaxies, star clusters and nebulae, and includes many of the brightest and best-known objects in the sky. Amateur astronomers can challenge their abilities by attempting to find all of Messier's Objects in one night, and thus complete the Messier Marathon. This book contains over ninety easy-to-use star maps to guide the observer from one object to the next, and provides tips for a successful night of observing. The book also tells the story of the eighteenth century astronomer, Charles Messier, and how he came to compile his extensive Catalogue. This complete guide to the Messier Marathon will help the amateur astronomer to observe the Messier Objects throughout the year, using a telescope or even a pair of binoculars.

DON MACHHOLZ is an amateur astronomer living in Colfax, California. He is an active comet hunter, and has discovered nine comets that now bear his name. He was the Comets Recorder for the Association of Lunar and Planetary Recorders for twelve years. A keen writer, Don was the author of a monthly astronomy column for twenty-two years, and has also written numerous astronomy articles for local newspapers and radio stations. This is his fourth astronomy book.

The Observing Guide to the Messier Marathon

A Handbook and Atlas

Don Machholz



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Preface

Imagine yourself standing next to your telescope at evening twilight. It is late March. The sky is clear, the wind still. It is the night of the Messier Marathon. Tonight you will have the opportunity to locate and observe 110 galaxies, star clusters and nebulae cataloged 200 years ago by a French astronomer named Charles Messier. This basic list contains some of the best astronomical objects ever seen. Most amateur astronomers don't bother finding all of them in a lifetime; you are going to marathon through the whole list in one night.

You begin by working your way upward from the western horizon. After these galaxies you enter the open clusters and nebulae of the winter Milky Way. The variety of these wonders is astonishing.

Time passes quickly. You have been marathoning at a leisurely pace for nearly two hours now. Already you are examining the galaxies high in the sky near the Big Dipper. Next comes the area you have feared the most – the Virgo Galaxies. You set out on it using your trusty star chart. In twenty minutes you have picked up seventeen more Messier Objects. 'This is easy,' you think.

It is now 10:30 PM. You have seen sixty-six of the 110 Messier Objects. You're ahead of schedule. You can now sleep, view other

Preface

objects, sketch a planet, photograph the sky, watch for meteors, locate Pluto, or visit the other marathoners.

It is now 1:30 AM. The winter Milky Way has set in the west; the summer Milky Way has risen in the east. You pick up some of the most beautiful clusters and nebulae you have ever seen. You swing through Scorpio, then make another sweep down the Milky Way, stopping at each Messier Object in your path.

You are enjoying yourself so much that you are a bit startled when you realize that there is only forty-five minutes until morning twilight. You have seven more Objects to find. This would normally not be difficult, but there is little room for error. You pick up M55, M75, M15, M2, M72 and M73. Twilight approaches. You set your scope on the location for M30, your last Messier Object. There is nothing left to do but stare through your eyepiece. Finally, you see it. In the span of nine hours you have observed the complete Messier Catalogue.

As you put away your telescope, your memory plays back images of everything you have seen. Never before have you observed so many objects in so little time. Every Messier Object remains fresh in your mind.

It's been a good night. You've gained a lot of experience and confidence during the past few hours. You'll be back again next year.

Let's re-design the scene. You miss the first two Messier Objects. Your neighbor burns leaves, engulfing you in thick smoke. Or the Sheriff arrives and tells your group that you must either keep the dirt road clear of cars, or you'll all have to leave. Or your spouse calls you in to put the kids to bed during your second hour. The wind whips up by 10 PM, blowing over your camera and breaking the filter. The Virgo Group takes two hours. Your flashlight batteries begin to die. The fog rolls in one hour before dawn. Do these things happen? Yes. Every one of them has happened to me while marathoning. These same things could happen to you, too. But in every situation I've learned something, grown, and became a better observer. And so will you, no matter how many Messier Objects you see or don't see. After a Marathon I see a lot of tired and happy people, some of the happiest are those who have seen fewer than one hundred Objects – many of these Objects they have never seen before.

It has been more than two decades since I suggested a 'Messier Marathon' to the San Jose Astronomical Association; I've seen it continue to grow as astronomical clubs and individuals around the

world take part in this challenge to locate and observe all 110 of the clusters, nebulae and galaxies contained in a catalog compiled by French comet hunter Charles Messier nearly 200 years ago. This book is designed to help the observer to find, in one night, as many Messier Objects as one's experience, instrument, weather, latitude, and ability will allow.

Acknowledgments

When Charles Messier compiled his list of 110 galaxies, star clusters and nebulae over 200 years ago, little did he know that an amateur astronomer would one day write a book to describe how to find the whole batch in one night. This book would not be possible without the efforts of others, and I wish to thank them publicly at this time. Charles Messier wrote his Catalogue. I thank him for including all the wonderful galaxies, nebulae and clusters (even M30).

I thank those who started the Messier Marathon. This includes Tom Reiland, Tom Hoffelder and Ed Flynn. The late Walter Scott Houston helped bring the idea to a universe-full of amateur astronomers.

So many others have helped the Messier Marathon to expand and grow. A.J. Crayon of Arizona has been one of the leaders in developing the Marathon into a spring ritual in the Arizona Desert. Many others have also introduced this idea to their local astronomy clubs.

Two valuable astronomy software programs helped to simplify my making of the sky maps. The software Deep Space 3D™ was used for some of the star maps. THE SKY™ software by Software Bisque was used for others.

When I wanted to illustrate this book I turned to dozens of web

Acknowledgments

sites of beautiful images of the heavens. Deciding which to use was difficult because there were so many to choose from. Thanks to all of you who post these images for us to view.

It was Simon Mitton of Cambridge University Press who urged me to expand upon my writings and maps and make them accessible to a world-wide audience. Compiling this manuscript was not easy. I needed help with my grammar and spelling. Rich Page, a friend, fellow amateur astronomer and a human spellchecker, looked through my writings and offered many suggestions. Most of the mistakes I've made while writing this book will never make it to print because of Rich Page.

A renowned Messier Marathon expert, Hartmut Frommert, reviewed these pages, making suggestions where needed. Hartmut's web site has been most valuable to me as I researched this book.

Even with all the help in writing this book, I still remain responsible for the errors. It sounds unfair, but that is just the way it is.

It has not been easy for my family as I've had to share some of their time with this book. I wish to thank Laura, Matt and Mark for their patient support during this past year.

Don Machholz
August 2001
Colfax, California