

# Comet Hunter

~Spring Equinox Astronomy 2009~

Hell-o again! Finally, spring is officially here. This is the time of the spring equinox. For a complete explanation of just what the spring equinox means astronomically, please see that first issue of [Comet Hunter](#).

Those of us living in colder climates are always happy to see this time of year come. Lots more sunshine and warmer temperatures to warm our winter weary bones and spirits. And, for us crazy astronomers, it's now time

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for the Messier Marathon. Now, you are probably wondering, what on earth is a Messier Marathon? Is it some kind of race involving telescopes? Well yes, actually it is, of sorts. This marathon is an insane thing astronomers do who are crazy enough to stay out in the cold from dusk till dawn on a still, moonless night in late March or early April. It is a mad dash to find all 110 Messier deep space objects in one night with our telescopes. Because of the earth's tilt, this is the only time of year all the Messier objects can be viewed in one night.

We can make out the nuclei (central bulge) and beautiful spiral arms of other galaxies, many of the individual stars and compact star clusters, the ghostly fascinating shapes of some nebulae, as well as the tails of many comets.

Okay, what are Messier objects? They are the 110 deep space objects [DSO's] listed in the Messier catalog- the brightest, easiest to find galaxies, star clusters, nebulae, and a double star. Remember when I told you to look for a fuzzy nebula in Orion Belt's during the winter? That was the pair of Messier objects,

M42 and M43, The Great Orion Nebula. More about the "M" [Messier] objects and

the marathon later, first I want to tell you about the original comet hunter, a famous French astronomer who discovered and listed these "M" objects.

In 1758, Charles Messier, a 28 year old french astronomer found and tracked Halley's Comet, which had returned that year as predicted, which proved that comets orbit the sun just like the planets. So, in Europe, comet hunting became very popular among astronomers.

With his small 4 inch refractor telescope, Charles discovered 13 new comets on his own and helped to discover six more. This is truly amazing, especially considering the terribly poor optics of his telescope. (even the cheapest, smallest telescope of today would put Charles little refractor to shame.) He was nicknamed "Ferret of Comets," as the discovery of just one new comet would make an astronomer famous.

However, he is most famous today for his catalog of Messier Objects. While searching the night sky for comets, Charles kept running into faint fuzzy objects that mimicked comets, but did not move, so they were not comets. All comets change position in the sky over a period of several nights, as they orbit the sun. DSO's do not change position.

In Charles Messier's time, before we learned from the Hubble Space Telescope that there are many other galaxies in the universe besides our own Milky Way Galaxy, all "faint fuzzies" in space were thought to be nebulae.

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And given the poor optical quality of his telescope, it was not possible to see the difference between galaxies, clusters of stars, nebulae, and comets. Charles was not interested in nebulae and in fact called these objects "embarrassing objects," as they mimicked comets in appearance but were not comets.

**"The Earth is just too small and fragile a basket for the human race to keep all its eggs in."**

**Robert Heinlein**

Tired of being embarrassed, he compiled a list of all these comet like "embarrassing objects," making note of their positions in the sky, so that he would not have to waste his time on them again. I suppose we can all imagine his

disappointment and embarrassment each time he encountered one of these objects in his comet searches, thinking " I found another comet," only to realize the object was only a "nebula."

Remember, he could not tell the difference visually, so to confirm that his find was indeed a comet, he had to track it each night to see if it moved. So at might take many nights to realize that his object was not a comet. Therefore his list 103 objects was a great aid for his comet hunting. Seven more objects were added to the list after his death.

Today, his list is still very popular and used the world over. But not for comet hunting – we use the list to find "embarrassing objects." With the advances in modern technology, our telescope optics are so much improved over those of Charles Messier's day that we can see

the true shape of those objects that he mistook for faint nebulae. We can make out the nuclei (central bulge) and beautiful spiral arms of other galaxies, many of the individual stars and compact star clusters, the ghostly fascinating shapes of some nebulae, as well as the tails of many comets. There are 55 star clusters, 36 galaxies, 11 nebulae, 1 double star and one super nova remnant in the Messier list. Some Messier, or "M" objects, can be seen with the naked eye. M45, the pleiades or Seven Sisters is one. It is a beautiful open cluster shaped like a tiny dipper and can be seen rising in the east in the fall. Another M31, the Andromeda Galaxy seen best in fall and winter. Also the previously mentioned Orion nebula, M42 and M43, as well as M44, the big and bright open star cluster named the Beehive in Cancer and M13, the famous globular cluster in Hercules, which looks like thousands of diamonds sprinkled on black velvet in a telescope.

It is with humor that we astronomers of today recall that the Messier catalog originated as a list of things not to waste time on! There have since been other lists compiled and several other lists often of fainter more distant and harder to find DSO's but the Messier are the still the most popular at star gazes as well as in private back yards, especially among the public, beginners, and binocular users as most are the brightest, easiest

**Mortal as I am, I know that I am born for a day. But when I follow at my pleasure the serried multitude of the stars in their circular course, my feet no longer touch the earth.**

- Ptolemy, c.150 AD

to find and easiest to see among the myriad DSO's observable in the night sky.

There is even a certificate awarded by the National Astronomical League to those amateur astronomers who find, observe and record their observations of the entire Messier list. This observation is not done in a single night however and may take some observers years to complete. But it's considered serious observing.

The Messier Marathon, on the other hand, while the same objects are found, is silly, fun and competitive. Everyone wants to bag all 110 objects, but even 70–80 is considered a good job for an experienced observer.

If you decide a Messier Marathon sounds like fun or want to attend one check with your local astronomy club or observatory, or newspaper. Most clubs and observatories do invite the public to their Messier Marathon and it is a fun evening for all. It's not necessary to remain for the entire evening. The local observatories in my area will even have telescopes set up for children to participate in the marathon. All the Messier Marathons this year will take place in the first week of April, near the new moon, as moonlight obscures the fainter objects. If you go to a marathon, dress very warmly in cooler climates and bring hats and jackets even in warmer climates. It still might be quite chilly once the sun goes down. Refreshments and chairs will most likely be provided by the club sponsoring the event.

Final note: if you have a telescope or binoculars and want to try the marathon on your own [The Messier Guide by James O'Mara](#) can show you how to do it. And no GO TO \* telescopes allowed, the fun is finding the objects yourself. Happy hunting!

*\* a GO TO is a telescope that "goes to" sky objects that you select with a hand controller that are very difficult and frustrating for a beginner to set up. A good set of star charts will get you where you want to go a lot easier and cheaper. :-)*

### [StarDate online Moon Phases](#)

#### **Moon Phases, March 2009**

New Moon - March 26, 16:06

#### **Moon Phases, April 2009**

First Quarter - April 2, 14:34

Full Moon - April 9, 14:56  
Last Quarter - April 17, 13:36  
New Moon - April 25, 03:23

**Moon Phases, May 2009**

First Quarter - May 1, 20:44  
Full Moon - May 9, 04:01  
Last Quarter - May 17, 07:26  
New Moon - May 24, 12:11  
First Quarter - May 31, 03:22

**Moon Phases, June 2009**

Full Moon - June 7, 18:12  
Last Quarter - June 15, 22:15

*Comet Hunter is an avid astronomer who has courageously coped with chemical injury for many years.*