

Cosmic Bird Watching

by Geoff Gaherty, Toronto Centre (geoff@foxmead.ca)

If we amateur astronomers are, as Terry Dickinson has called us, “naturalists of the night,” then one of our most beloved occupations might be called “cosmic bird watching.” This term was coined by Jay Reynolds Freeman: “If galaxies were birds, then what we do would be called bird watching, not ornithology. ‘Cosmic bird watching’ might be a good catchphrase for what deep-sky observing is all about.” (observers.org/beginner/deep.sky.html)

Like regular bird watching, cosmic bird watching starts with a list of targets. There are many different lists of varying difficulty and focus; the RASC publishes a whole bunch of them every year in our *Observer's Handbook*. Why bother with a list? Most beginners have few ideas of what to look at beyond the Moon and planets. Observing a list of objects gives structure to observing, creates a sense of accomplishment, and encourages the observer to learn new parts of the sky.

By far the most famous list is that compiled by Charles Messier in the 18th century. The idea of attempting to observe all of the objects in Messier's catalogue was a product of the fertile mind of one of Canada's greatest amateur astronomers, Isabel Williamson of the Montréal Centre. I'll let her describe it for you:

Our Messier Club came into being on Wilson Avenue in the early 1940s. Its main purpose was to stimulate members into becoming active observers instead of being content to look through the telescope at objects others had located.

Messier's Catalogue with its 103 objects [now expanded to include 110 objects] was an excellent basis for a competition. There were a few rules, of course. The member had to find and identify each object himself. The beginner who had never operated a telescope was given a little help with the first few objects and then he was on his own. The objects had to be observed through a telescope. (Those viewed only through binoculars didn't count.) Setting circles were ruled out. (That was too much like shooting a sitting duck.) The purist would not even view an object that someone else had located until he had found it for himself. (It is much easier to find an object if you know what it looks like.) And so, through the Messier Club, members became familiar with the sky, learned to operate telescopes and find objects invisible to the unaided eye, and trained their eyes to detect fine detail.

Ten members have observed all the objects in Messier's Catalogue [as of 1968]. The graduates, listed in the order in which they attained this status, are Tom Noseworthy, Professor T. F. Morris, Constantine Papacosmas, Geoffrey Gaherty, Dr H. E. Lehmann, Charles Giffin, Larry Anthenien, Alfred H. Capper, Dr George Fortier and David Levy.” (*Fifty Times Around The Sun: A History of the Montreal Centre Royal Astronomical Society of Canada 1918 to 1968*)

Isabel's idea was spread far and wide by her friends Walter Scott Houston and James Mullaney. When Tom Noseworthy observed his last two Messier objects, he asked Isabel what he should do next, and she, jokingly, suggested the Herschel catalog. Thus, she is also the inventor of the Herschel Club. Only a handful of amateurs, including our own Father Lucian Kemble, have observed all of William Herschel's 2600 objects. Most go on instead to subsets of Herschel's catalog such as Alan Dyer's Finest NGC Objects (in the *Observer's Handbook*) and the Astronomical League's Herschel 400 list. (www.astroleague.org/al/obsclubs/herschel/hers400.html)

To anyone who has struggled with locating even some of the brighter Messiers, the thought of tracking down 400 fainter objects may seem daunting. It's not quite as bad as it seems since, by the time an observer finishes the “Messiers,” they will already have observed some of the Herschel 400 because there's some overlap between the two catalogues. While Herschel tried not to duplicate any objects on Messier's list, he included 16 objects that currently have Messier numbers, mainly because of errors on Messier's part. If you have also observed the Finest NGC list, you will have an even greater head start, as 86 of these objects are duplicated in the Herschel 400. Only 298 to go!

Because nights suitable for observing faint deep sky objects are fairly infrequent in my part of Canada, I've found it wise to be well organized so that I can get the most out of those rare clear nights. I prepare planning charts in *Starry Night*, and photocopy the relevant pages from the *Millennium Atlas*. These are my personal favourites; your choice may be different. As an overall planning tool, I make extensive use of the magnificent database of over 10,000 deep-sky objects compiled by members of the Saguaro Astronomy Club in Arizona (www.saguaroastro.org/content/downloads.htm). I've imported this into a *FileMaker Pro* database and added fields to contain my observing notes. This lets me easily sort the

objects by Right Ascension, Declination, chart number, and so on.

My Herschel 400 observations started many decades ago when I first observed the “Messiers” as part of the Montréal Centre’s Messier Club. Like most graduates of the Club, I treated the Herschel Club as something of a joke, and only devoted three sessions to it, logging 16 “Herschels” in 1959 and 1962. When I returned to astronomy in 1997, I re-observed all of the “Messiers” and started in on the Finest NGC list, which I completed in March 2001. At this point I had logged 124 of the Herschel 400 list, since I’d serendipitously caught quite a few bonuses while starhopping to the Messier and FNGC objects.

I’ve found that, after completing a major project, I often need to spend some time doing some totally different kind of observing. As a result, I logged only four new objects during the following year, and it wasn’t until the summer of 2002 that I began seriously hunting down “Herschels” again. Between May and December 2002 I logged 74 more objects in 11 sessions. This was followed by another fallow period, from January 2003 through August 2004 when I added only 11 new objects. There were two main reasons: I had no access to a good dark-sky site and Rick Huziak had introduced me to the joys of variable stars.

When we bought our farm in Coldwater, I once again had regular access to a dark sky, and I began observing the “Herschels” with a vengeance. With 11-inch and 12-inch Dobsonians at my disposal, I had very little trouble locating or seeing the objects. Between September 2004 and July 2005, I logged an amazing

155 objects in only 12 sessions! At that point, I ran out of objects in the current sky, and was forced to wait until the late-winter/early spring skies returned in April 2006. I then logged the final 32 objects in 3 marathon sessions, catching the last object, the galaxy NGC 3395, on April 25. All in all, it took 60 observing sessions spread over 48 years to get the whole 400!

In rereading what I’ve written, it occurs to me that it’s mainly statistical, rather than descriptive. That’s because of something I’ve discovered while completing these cosmic bird-watching lists: each list is rather less interesting than the last. The Messier list is packed with visual delights. The Finest NGC list has quite a few, but noticeably fewer. The Herschel 400 turns into a slog through tiny faint smudges of galaxies and thinly scattered clusters of stars. My hunch is that I’m rapidly approaching the point of diminishing returns in deep-sky observing, at least until I get a significantly larger telescope or move to the Southern Hemisphere, neither of which seems likely at present. So once again, I find myself going back to my other astronomical pursuits, variable-star observation and timing central-meridian transits on Jupiter, or thinking about a totally new venture, such as astro-imaging. Herschel hunting had its moments, but I’m ready to move on to something different. ●

As described above, Geoff Gaherty has returned to active status after a thirty-year hiatus in observing from the ‘60s to the ‘90s. A member of the Toronto Centre, he is gainfully employed working for the Royal Ontario Museum and Starry Night Software.

Astrocryptic

by Curt Nason, Moncton Centre

The solution to last issue’s puzzle:

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