

Exploring the Dark Night Sky – by Geoff Byford

The dark night sky in the Haliburton Highlands enables cottage astronomy enthusiasts exceptional opportunities to stargaze from their yards, shorelines and docks. And you do not need an expensive telescope! Most cottagers have general purpose binoculars that are suitable for stargazing. Binoculars have a wider field of view than telescopes, provide un-reversed upright images, and are light weight and portable.

Accordingly, they are simple and convenient to use, and will reveal awe-inspiring sights of innumerable distant Milky Way stars glittering from the dark-black depths of space. Stargaze at the Universe and contemplate that you are looking back into time thousands or millions of years or more! Wonder too if any intelligent beings light-years away are looking at our Sun and have deduced that it is Home Star for our Earth, and for amateur Mountain Lake astronomers? Stargaze at the heavens and your amazement and imagination will be aroused!

Binoculars are specified by their magnification power and the diameter of the main objective (front) lenses measured in millimeters (mm). For example, 7 x 35 (a common medium-sized binocular) means that the magnification is seven times (7 x) and the objective lenses are 35 mm in diameter. Be aware that higher magnification binoculars produce dimmer views which may jitter with your arm-hand movements; larger objective lenses produce brighter images but make the binoculars heavier to hold. Use of larger binoculars (say 10 x 50 and greater) may require some form of support for comfortable prolonged viewing. An arm chair or chaise to facilitate body support can suffice for comfortable stargazing; a tripod with a binocular adapter mount might be better yet; "image stabilized" binoculars are available for serious astronomy buffs.

People often fiddle with binoculars to bring distant objects into focus, but you can do much better!

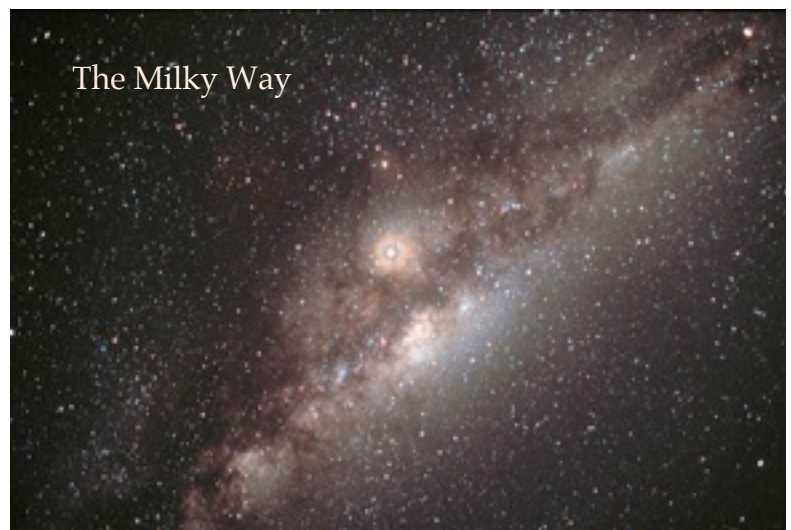
- ▲ Set the interpupillary distance by adjusting the binoculars on the central pivot so that their circles of light overlap precisely;
- ▲ Cap the right telescope (or close your right eye) and look through the left telescope; use the central pivot focusing adjustment to bring an object into focus with your left eye;
- ▲ Next cap the left telescope (or close your left eye) and use the focusing ring on the right telescope eyepiece (the diopter adjustment) to bring the same object into sharper focus with your right eye;

- ▲ Remove the cap and refocus on the same object with both eyes, once again using the central pivot focusing adjustment. Your binoculars should now be correctly adjusted for your eyes! Proceed to use your binoculars to focus on any object close by or far away. Repeat this initial procedure every viewing session, particularly if other people at your cottage use your binoculars and change the interpupillary and diopter adjustments.

Binoculars will reveal far more than can be seen by the naked eye. Gaze at the moon and marvel at all the mountains, *maria* (seas) and craters, particular when low illumination and shadows highlight the rugged relief and topographical contrasts. Discover the wandering planets of our solar system, view the constellations, distant nebulae and streaking comets, and search the night sky for artificial satellites that orbit Earth. Scan the heavens in almost any direction to behold a myriad of sparkling stars. Seek those same celestial objects (e.g., Saturn and its rings, the Pleiades, the Orion Nebula, the Andromeda Galaxy) that have stirred human wonder about Nature and our Universe and have inspired curiosity, knowledge, creativity and discovery over generations.

You will soon wish to explore the night sky with your binoculars, not randomly, but with purpose. To find your way around the sky at different times of the year, learn to recognize the seasonal constellations (star patterns), study the monthly star maps published in astronomy reference books and in many newspapers, and investigate web sites such as: **Canadian Astronomy Education** www.cascaeducation.ca (click on **Tour the Night Sky**); **Royal Astronomical Society** www.rasc.ca (click on **The Sky This Month**); www.spaceweather.com (click on **Satellite Flybys**).

Enjoy your binoculars and your stargazing at Mountain Lake! And don't forget to *Wish Upon a Star!!!*



MLPOA ANNUAL GENERAL MEETING

Saturday June 23 at 10 a.m. at the Pepper Mill Restaurant Hwy 35.
Refreshments start at 9:30 a.m.