Starhopping in the Era of Smart Telescopes

By Brad Young, Astronomy Club of Tulsa

Witness the man who raves at the wall, making the shape of his question to Heaven

Whether the sun will fall in the evening, will he remember the lesson of giving?

"Set the Controls for the Heart of the Sun" – performed by Pink Floyd written by William Orbit / Laurie Suzanne Mayer / George Roger Waters

Believe it or not, as recently as 2011 I was still star hopping. I used star hopping all along in my hobby of astronomy and would often make fun of people who didn't because they didn't know how to find things in the sky. Of course, with a larger scope it became tedious to try to find things that way and so I have relied on digital setting circles ever since I got my 22" Obsession. Now that I also have a Seestar, I don't use star hopping at all to try and find targets with it. For common objects, I just scroll through what's available or type in the one I want, and it will go right to it (if I have aligned it properly to begin with). After all, now that I'm imaging after 46 years of purely visual observing, starhopping is not a method I would use anymore with EAA (electronically assisted astronomy).

Besides the patience needed to "hop" from one star or field to the next, a minimum knowledge of how the sky works and the coordinate systems we use in the sky is needed. It's a feedback loop; because you don't need to star hop any more with go-to and push-to systems, few learn the basics of celestial mechanics (how the sky works). Then, lack of knowledge of the system discourages using starhopping. Like a train without windows, you go effortlessly to the target, but don't see any of the sights along the way. And if something's wrong, you may not find the destination if the setup of your scope is off, and you will not have any idea how to correct alignment errors if you don't know the sky you're under.

Though I have fond memories, I certainly don't plan on going back to starhopping regularly. It was time-consuming, and often frustrating, searching for dim objects using dim stars that didn't always provide a good path to follow. But there was feeling of accomplishment whenever you started at a bright star and began moving along lines and triangles and other shapes based on what your star chart showed you. Without star hopping, you don't get to find points of interest along the way. Often, along the path shown by the chart, you'll find uncharted curly cues and wide pairs of stars in the path. There may even be even a deep sky object you didn't know was along the way that you run into by mistake and can enjoy for a while before moving on to the intended target.

Starhopping also taught me skills I used for subjects other than deep sky searches. When I took up satellite hunting in 2001, I learned the best way to try to find a satellite that you wished to observe Is to look at its path among the stars and see where it passes between a pair of stars or along the side of a triangle or whatever pattern that catches your eye. Both kinds of uses of the stars In the sky to find objects are similar and complement each other in developing a skill set.

As I say this, I'll admit that it's not a skill that very many people are learning at this point. It is way too easy to type in the object name or number and let the scope find it. But it is fun to look back at some of the things that I "discovered" while star hopping. There, for just a moment, I thought might be an unknown cluster or other new object and I had found it. Of course, that never did turn out to be the case. It wasn't a real cluster, or it was known in a rare catalog. But that didn't take away from the fun of enjoying the feeling of discovery out under the sky.

Are we all lost stars trying to light up the dark? – performed by Adam LeVine, written by Gregg Alexander / Nick P. Lashley / Nicky John Southwood / Danielle A Brisebois

One field that I remember from very early on when I was still in high school was finding a group in Cygnus. While looking for a double star with my cheap little refractor, I found a field full of them and nice groups of faint stars between two small open clusters. I've included an image of it here taken with my Seestar 50.

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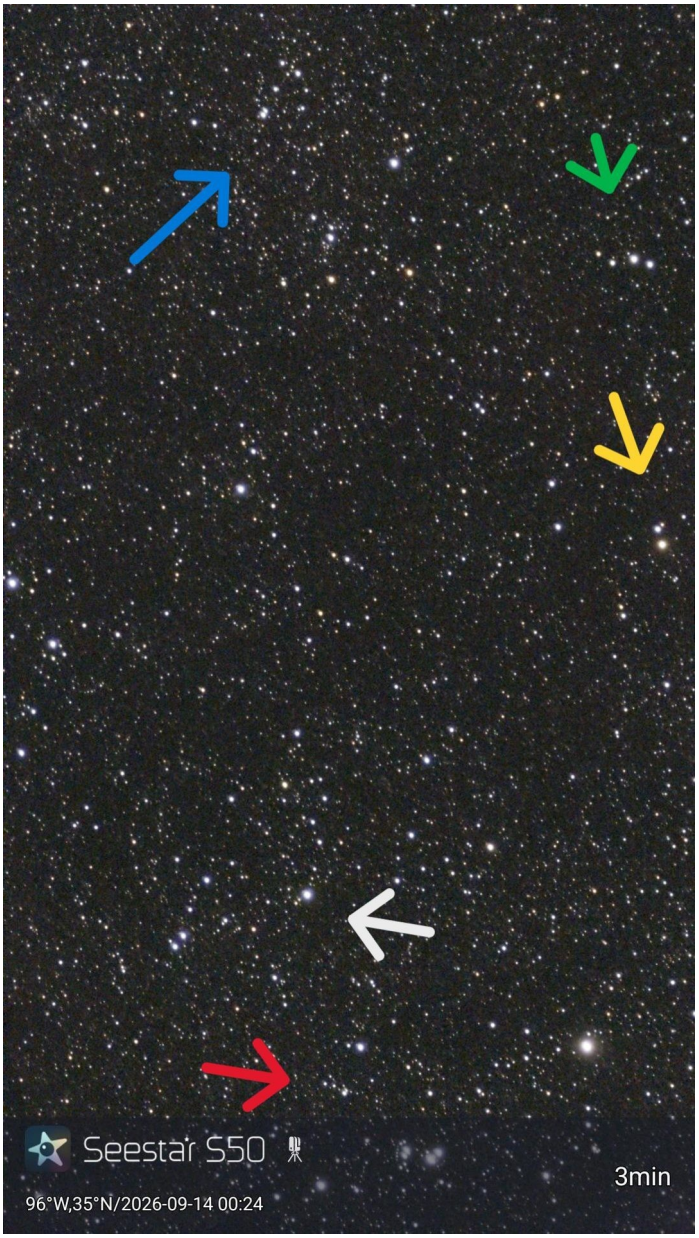
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Blue arrow = NGC 6883 open cluster
Green = variable star V1769 Cyg in a nice group
Yellow = HD191493, wide double star (one of many in field)
White = HD191201 another double
Red = NGC 6871 edge, obscured by time stamp



A few of the objects have official names, e.g., the two clusters, but this field is not remarkable otherwise. It just sticks out in my mind as one of those areas that was fun to find one night when I was out enjoying looking through a telescope in my backyard Instead of being inside listening to the TV drone on and on.

You can, at least with a Seestar, use the star chart feature and joystick to move from field to field, but this is unlikely to be a popular way to observe. If you have a visual scope of course, you can always turn off or ignore your digital setting circle system if you have one, and star hop any time.

A great book for learning how to star hop, and one that includes several examples to find deep sky objects with step-by-step charts is ***Star-Hopping Your Visa to Viewing the Universe*** by Robert Garfinkle. Most astronomy periodicals also include monthly star hops and they are practically ageless, since the stars do not move in our lifetimes.

As you star hop, you will come across interesting patterns that are not constellations, but are recognized as asterisms, such as the Coathanger in Vulpecula:



By Petr Novák https://commons.wikimedia.org/w/index.php?curid=60397521

For these groups, Pattern Asterisms – A New Way to Chart the Stars by John A, Chiravalle provides sketches, images, and other resources to identify the ones documented in the sky. There are plenty of others, and you may find one of your own that you like.

