

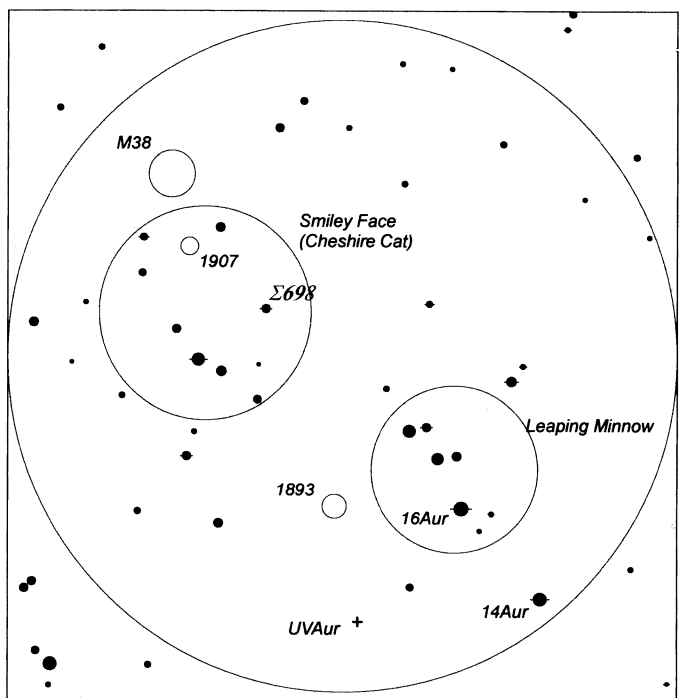
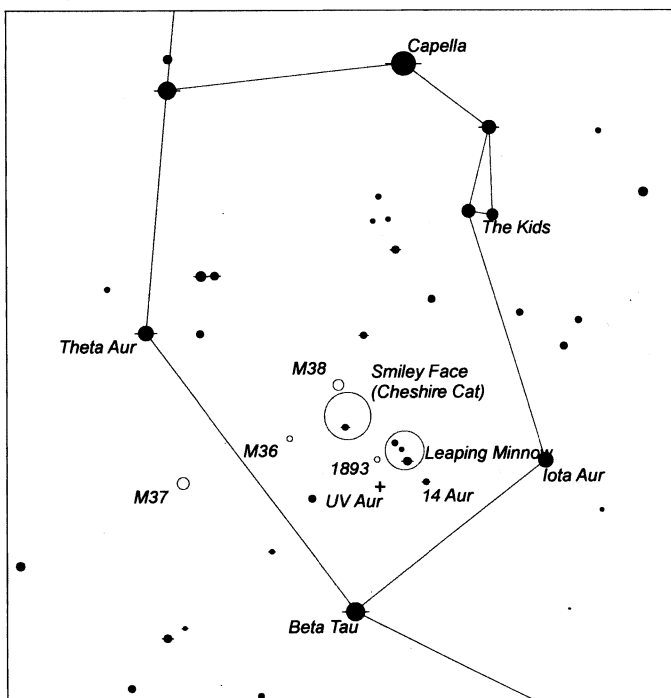
One Good Target

With Some Other Sights Worth Seeing
While You're in the Neighborhood

January

Three Open Clusters in Auriga
with side trips to a couple useful asterisms, a few doubles,
and yet another carbon star

The constellation Auriga (The Charioteer) is home to a trio of Messier open clusters: M36, M37, and M38. We covered the two brighter ones, M36 and M37, a year ago. This month's principal target, **open cluster M38**, is a loose group of around 100 stars mag 8 and fainter, covering an area 20 arcminutes wide and glowing at an integrated magnitude of 6.4. It's the faintest of those three, but it's still bright enough to be an easy binocular target under reasonably dark skies, appearing as a round patch of light studded with a handful of discrete stars. The cluster's brightest stars form a rough "X" shape, which can be seen even in small scopes along with dozens of other member stars, but it can be difficult to recognize them as a cluster in the rich surrounding field. Larger instruments reveal many twisting chains of stars snaking through the cluster. Use low power (40-50x at most) and a wide field to include the entire cluster along with some surrounding area.



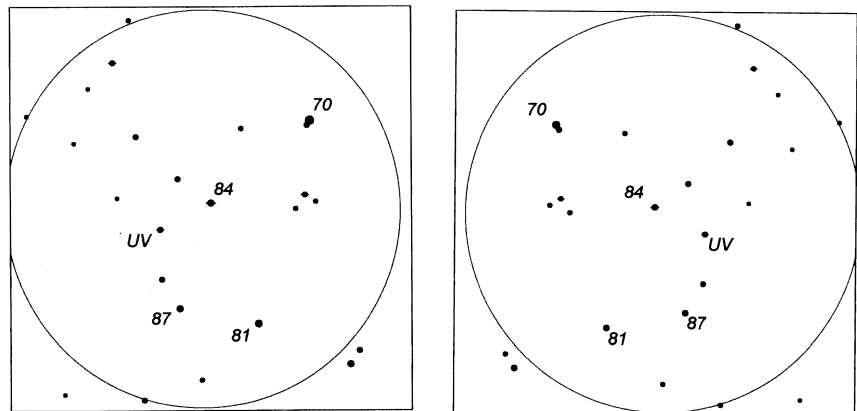
This month's targets: (left) area view, north at top, showing stars to mag 5.6
(right) 5° field, north at top, showing stars to mag 8.0

Like M36 and M37, M38 can be located easily by using the 1.5° wide **Smiley Face** asterism, also known as the **Cheshire Cat**, located just over halfway between mag 2.6 Theta Aurigae and mag 2.7 Iota Aur. As shown in the 5° finderscope view above, if you mentally extend the NE end of the asterism's smile, you'll run smack into the cluster; or you can imagine the cluster as marking the Smiley Face's ear, protruding from its head level with its northern eye. If you look carefully between that eye and the NE end of the smile, you might also be able to make out another open cluster, **NGC 1907**, like a tear rolling down the asterism's face. It's a close physical neighbor of M38 – the pair are separated by only about 50 light years, and may have formed in the same molecular cloud. NGC 1907 is a rich cluster of 30-40 stars spread across a field only 5 arcminutes wide, glowing at an integrated magnitude of 8.2. It begins to resolve at 100x or more in almost any telescope, but becomes prettier with increasing aperture and magnification. Before moving on, check out the asterism's southern eye, an easy yellow + blue double known as **Struve (Σ) 698**, comprising a mag 6.6 primary and a mag 8.7 secondary separated by a comfortable 31 arcseconds. 40x should split it.

Our next target, **open cluster NGC 1893**, is also easily found by following an asterism, but this time it's the **Leaping Minnow** that shows us the way. To get from Smiley Face to the Leaping Minnow, extend the asterism's smile from the SW end until you reach a group of mag 5-6 stars forming a tailed diamond 1° tall, like a lopsided miniature version of the constellation Delphinus (The Dolphin). The cluster is just east of the minnow's body. It's a group of 40-60 young stars, only around a million years old, covering an area 12 arcminutes wide and glowing at an integrated magnitude of 7.5. The brightest stars in the cluster are mag 9. Small scopes at 40x or more will resolve a dozen member stars, while a 6" scope will show you 30 members in a distinctly oval grouping. The cluster is surrounded by a faint red emission nebula 20 arcminutes wide (**IC 410**), but it's difficult to see the nebula in small scopes; an O-III filter can help bring it out.

While you're in the neighborhood, take a closer look at **16 Aurigae**, the star that marks the tail of the Leaping Minnow. It's a difficult double that pairs a mag 4.8 primary with a much fainter mag 10.6 secondary separated by 4 arcseconds. You'll need at least 150x to split it. For an easier split (50x should do it), look 54 arcminutes SW of 16 Aur, where you'll find **14 Aurigae**, a yellowish mag 5.1 primary located 15 arcseconds from its mag 7.4 companion whose color is sometimes described as orange and sometimes as purple-blue.

UV Aurigae:
1° field, north at top,
stars to mag 10.5,
selected mags shown,
decimals omitted
(erect image left,
mirror-reversed right)



Before packing up for the night, look 1.4° east of 14 Aur to find our final target, **UV Aurigae**, a Mira variable carbon star whose magnitude ranges from 7.4 to 10.6 over a period of 394 days. It's just 3½ arcseconds away from a mag 11 deep blue secondary (type O9 II), turning it into a double known as **Hu 614** (from the catalog compiled by William Hussey at Lick Observatory in 1900). If you have a 6" or larger scope, the pair's gorgeous blue and red colors can be stunning at 200x or more – a display of the heavens' beauty that merits a good long look, and makes this a fitting spot to wrap up tonight's explorations in the cold winter sky.

Rick Gering / January 2025