Monoceros R2 (Mon R2) star cluster is one of the closest massive star-forming regions from our Solar System. We can see reflection nebulae illuminated by bright stars, which are as massive as 20 Suns. Hundreds of buried young stars were born in this cluster.

Distance from the Sun: 2,700 light years

www.ifa.hawaii.edu/88inch
Red Square Nebula

Keck © Peter Tuthill and James Lloyd / Palomar / Keck

Nebula
Infrared Image

Distance from the Sun: 5,500 light years

Red Square Nebula resembles a giant, glowing red box in the sky, with a bright white inner core. This core is composed of a dying star called MWC 922 which is spewing its innards from opposite poles into space. If we could see the poles from another angle, gigantic rings like Supernova 1987A would appear.

www.keckobservatory.org
SS 433 consists of a pair of “stars”: a primary “star” (a neutron star or a black hole) and a “normal” companion star. Gas of the companion star is sucked in by the strong gravity of the primary “star”, and high speed jets move out from the center. By imaging SS 433 daily, astronomers were able to trace individual ejections.
In infrared light, we can see the area around the very center of our Milky Way Galaxy quite nicely because infrared light can pass through the gas and dust in between. This center contains millions of stars and most likely a massive black hole.
Globular clusters are old star groups tightly bound by gravity. They are in the halo of the Milky Way Galaxy, outside of the disk and orbit the Galactic Center as satellites. The image of M53 was taken with red, green, and blue filters by students from Lokelani Intermediate School.