



Deepsky Delights

by Magda Streicher

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*Caroline Herschel's
deepsky discoveries*

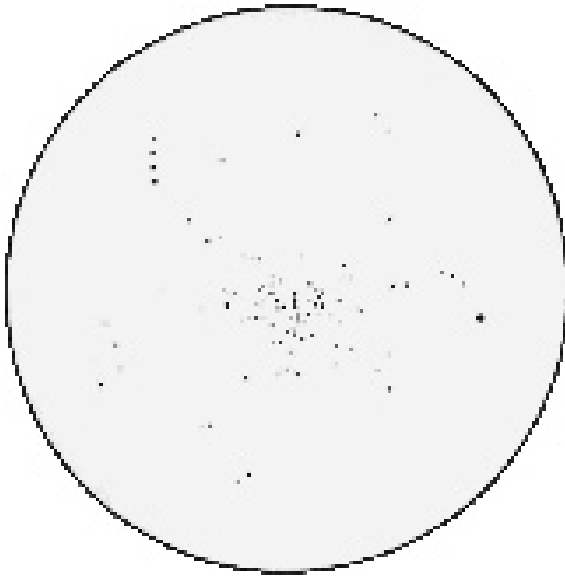
Just before midnight one evening this past October I walked out under an exceptionally dark and transparent sky, filled with starlight. I gazed up and was amazed to see a very soft, large glow between the constellations Aquarius and Pisces. This very rare sight later turned out to be the *Gegenschein*, the “counter

glow” of the Sun. However, this night belonged to Caroline Herschel.

Caroline (1750–1848) although small in stature was more than just a remarkable woman. Her unselfishness and consistent assistance enabled her brother William and nephew John, to give the astronomical world a rich heritage. William in turn equipped her with a telescope and encouraged her to hunt for comets. With great perseverance and during freezing cold nights in winter she found 8 comets and a hand-full of deepsky objects. This surely must have highlighted her lonely world.

The first object I turned to was **NGC 6633** in Ophiuchus, with the constellation already descending in the West. My first impression revealed a bright grouping of stars of various magnitudes. The centre exhibited a few brighter stars in the shape of a semi-circle, along with a faint uneven string of stars to the east that drapes from North to South. Concluding the observation was a very tight group of six stars to the west.

Members of queen Cassiopeia’s crown can be seen low on the northern horizon where they only bow for a short period of time. From my southern position I could only observe one of Caroline’s clusters in Cas-

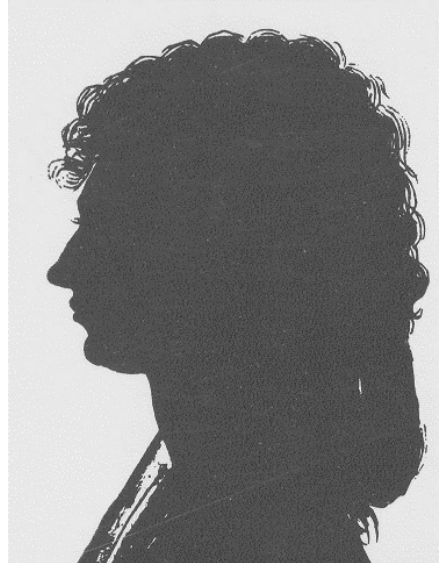


Caroline’s Cluster: NGC 2360 in Canis Major was discovered in the late 18th century by Caroline Herschel. The sketch above by Magda Streicher shows the 42-arcminute starfield as seen with a 12-inch SCT at 95x. North is up and east to the left. The brightest star, near the western edge, is 5.5 mag HR 2758 (HD 56405).

siopia. **NGC 7789** displays a swarm of faint splinter stars, somewhat elongated in a SW to NE direction, and more condensed towards the NW. On the far NE edge of the cluster is a prominent short string that merges with the busy star field. I paused a moment during this late night, feeling relatively warm with my jacket and beanie. I wondered whether Caroline would also have worn three pairs of socks, one over the other. **NGC 225** offered me just a few stars visible through the branches of the trees. Various photographs have shown an even triangle cluster of stars. Surprisingly, **NGC 659** revealed three bright stars on the south edge of the cluster which displays a hazy patch to the NE seen at 95x. Not much of an observation but my best shot at the most northerly object seen so far.

NGC 7380 is the only Caroline Herschel object in Cepheus displaying a few bright stars combined with fainter ones and a dainty string flowing in a southerly direction. The cluster is embedded in nebulosity. A prominent double can be seen on the western periphery of the cluster with a triangle shape. Did Caroline ever stare into the night sky, more than 220 years ago, and like me, wished to discuss and share it with someone? A dear English friend of mine once said, to be at the telescope all by yourself is a lonely pursuit.

At its highest point in the sky at this time of year is Caroline's most famous object, and a blessed southern object. **NGC 253** is a showpiece galaxy, very bright and almost edge-on, oriented in a SW to NE direction, with a slightly



Silhouette of Caroline Herschel. From MS Gunther36,f.146r preserved at the Museum of the History of Science, Oxford, UK.

brighter oval nucleus. The surface displays an uneven structure with faint dark knots and a few stars embedded within (218x). Around the outer edge the galaxy seems flimsy and woolly, and I could almost see it hanging three dimensionally in the dark of the night. Auke observed the "Silver Coin" with 11x80 binoculars, which showed a very elongated galaxy, wedged between stars. He once advised me to describe an object in such a way so as to see the beauty of the object in front of the mind's eye.

Independently discovered by Caroline and Charles Messier, **NGC 205** (also known as M110) is the NW companion of M31 the great galaxy in Andromeda.

This beautiful soft oval covered in haziness displays a rather bright nucleus (218x). Caroline was barely 33 years old, a fragile young lady and surely bathing in the joy of this then-unknown galaxy discovery. Charles Messier, a comet hunter of renown, however, had already laid eyes on this object some 10 years earlier at the age of 41. Caroline Herschel discovered her first comet in 1786 in the constellation Leo, the first woman ever to have achieved such. Perhaps if fate had permitted Charles Messier and Caroline Herschel, they could have had a marriage made in heaven under the starry sky filled with deep sky objects and, of course, comets. Before my thoughts get out of hand, let's continue to **NGC 2548** (M48) and the constellation Hydra. Again, Caroline and Messier independently discovered this large, bright and loosely-expanded cluster displaying circles, pairs and triplets. A prominent uneven string of stars runs through the cluster in a N to S direction (95x).

There is also a mystery object, **NGC 2349**, in Monoceros which remains an intriguing puzzle to this day. John Her-

schel read the position of the object as that of a double star close to the indicated spot. I, in turn, picked up a scattered string of faint stars 10 arcminutes to the SW, which is somewhat outstanding, but could be part of the busy star field (95x). With a frozen nose, shivering hands and chilly feet I pacified myself with the thought that the UK is usually very much colder than this – poor dear Caroline.

The last object for the night during the wee hours took me to Canis Major. **NGC 2360**, “Caroline’s Cluster”, is just 3 degrees east of Gamma Canis Majoris. This lovely dainty cluster is a scattering of faint stars in short strings, which are tightly grouped together 20 arcminutes east of a 5.5 magnitude star (95x). This unique cluster must have made Caroline proud of her discovery. It is about 1.3 billion years old, which is unusual for an open cluster, and lies about 5 000 light-years distant.

Following the highway along with Caroline and her objects through my 12-inch telescope was indeed nostalgic and of course a great privilege. What an incredible woman!

Object		Type	RA (J2000.0)	Dec	mag	size
NGC 6633	H VIII.72	Open cluster	18 ^h 27.7 ^m	+06°34'	4.6	27'
NGC 7789	H VI.30	Open Cluster	23 57.0	+56 44	6.7	15
NGC 225	H VIII.78	Open cluster	00 43.4	+61 47	7.0	12
NGC 659	H VIII.65	Open cluster	01 44.2	+60 42	7.9	5
NGC 7380	H VIII.77	Open Cluster	22 47.0	+58 06	7.2	20
NGC 253	H VI	Galaxy	00 47.6	-25 17	7.6	30 x 6
NGC 205	H V.18/M110	Galaxy	00 40.4	+41 41	8.1	19 x 12
NGC 2548	H VI.22/M48	Open cluster	08 13.8	-05 48	5.8	54
NGC 2349	?	Unknown	07 10.8	-08 36	—	—
NGC 2360	H VII.12	Open cluster	07 17.8	-15 37	7.2	12