A Crow named Corvus

by Magda Streicher

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Image source: Stellarium

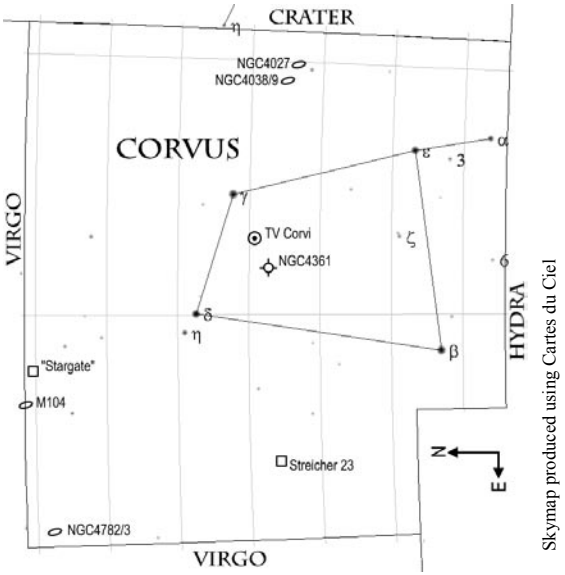
The world is home to many thousands of birds, but the crow is top of the pops as the bird that you will find in every corner of the globe. Not only is the crow exceptionally arrogant, but it also does an excellent job of mimicking sounds. What is more, its feathered suit is a highly fashionable black and white. I actually once heard a group of women referred to as "the crows"! Probably not very flattering, but clearly this bird deserves recognition and it has been honoured in the sky by having a constellation named after it – Corvus, the Crow.

Folklore has it (and I quote R.Allen's *Lore and Meaning* here) that "... the bird, being sent with a cup for water, loitered at a fig-tree till the fruit became ripe and then returned to the god with a water-snake in his claws and a lie in his mouth, alleging the snake to have been the cause of his delay. In punishment he was forever fixed in the sky with the constellations Crater the Cup and Hydra the Snake. Corvus the Crow was also known in historical times as the Great Storm Bird or Bird of the Desert."

Constellations with rectangular and triangular shapes make an impression and are also conveniently easy to remember – our own Crux, Pegasus and Hercules are good examples. Corvus only ranks 77th on the list according to size. The brightness of its four corners stars are slightly out of order – they range between magnitude 2.6 and 3, with Gamma the brightest, followed by Delta, Beta and Epsilon. Alfa Corvi is situated two degrees south of Epsilon but is even fainter at magnitude 4. Corvus makes its appearance in the east as the southern winter approaches, also the best time of year to search for galaxies.

Corvus can rightfully be proud of being home to **NGC 4038/9**, the merging galaxies, one of the most distinctive objects in the sky. This well-known and much-loved object is situated very close to the boundary with Crater and forms a 3.5 degree triangle to the west with Gamma and Epsilon Corvi. At approximately 60 million light years from us, it is the closest example of interacting galaxies. Two soft oval's, about 2.5′ in size and fairly close to each other, exhibit a definite eastern connection. In my 12-inch at 95 power, NGC 4038, the northern component, is hazier and a tad bigger than NGC 4039 which is smaller but slightly better defined. However both

galaxies exhibit a soft spread of light with slight brightening towards their nuclei. With higher power (12-inch, 346x), parts of the surfaces appear somewhat patchy with dark knots and a few faint star points. Known as the "Antennae", so named because of their tidal tails which can, of course, only be seen with much larger telescopes. Observing it starts in the cold of winter; this wondrous object floods my heart with a warm feeling, as in a way its shape resembles a heart.



Just 40′ SW of the Antennae is **NGC 4027**, probably one of the most peculiar galaxies to be found in this part of of the sky, which is liberally strewn with them. This object was discovered by William Herschel in 1785. NGC 4027's broad nucleus is fairly bright and slightly out of place as it is within the southern part of the galaxy. A hazy single tail extension can be seen spreading out from the NW edge and spiralling gently around the northern side, like a scorpion's tail. NGC 4027 is the archetypal barred spiral, with its unique form suggesting it may have been in close contact with NGC 4027A, which is situated only 3′ to the south.

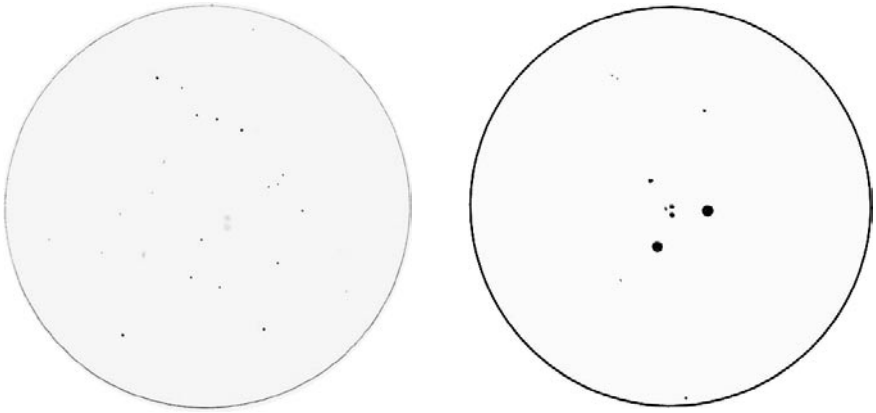
Although Corvus is rich in galaxies, the constellation is home to only one planetary nebula. **NGC 4361** forms a triangle of 2.5 degrees with Gamma and Delta Corvi in the heart of the constellation's stellar rectangle. William Herschel discovered this planetary in 1785, but didn't recognise it for what it is. At first glance the slightly oval E-W planetary may be mistaken for a galaxy. What struck me was the overwhelmingly bright 12-magnitude star in the middle enfolded by a soft, hazy halo. It expands into a second outer halo that appears thin and flimsy (12-inch, 218x). The rim appears broken and woolly and the planetary appears to be bathed in a soft, grey colour. NGC 4361 has been classified as a rare quadrupolar planetary.

Barely one degree NW of this unique planetary is the equally distinctive Tombaugh variable star. Clyde Tombaugh was searching for trans-Saturnian planets when, on 23 March 1931, he discovered what he thought was a nova in outburst.

Now known as **TV Corvi**, the star was first observed in outburst by David Levy on 23 March 1990. It is evidently a very remarkable star that is normally barely visible, even through the Palomar 48-inch Schmidt telescope, but is capable of increasing from magnitude 17 to almost magnitude 12 in days. In all likelihood TV Corvi is a repeating (15 month) dwarf nova, known as a cataclysmic variable star. Superhump periods are usually a few percent longer than orbital periods. David Levy, who had a longstanding friendship with Clyde Tombaugh again caught the star in outburst on 2 February 2005 (from David Levy's *Guide to the Night Sky*).

Delta Corvi or Algorab/Algores, shining brightly with a warm 2.9 magnitude, marks the NE wing of the constellation Corvus. Delta Corvi is a double star with two white members at position angle 214. Although it has a separation of 24″, the companion which is only magnitude 9.2, is not easily seen, due to the glare of Delta.

Halfway between Corvus and Virgo, I discovered another asterism, **Streicher 23**. It is star formation resembling a Texan male, in a EW formation. Two outstanding stars of similar brightness, which appear double, stare back at one like two eyes, forming the western end of the grouping. A faint string running NS through the grouping, looks like long and slender arms, reaching out. The brightest star, the 7.2-magnitude HD 111156, forms the large, typical belt buckle, with the rest forming the sculptured legs, positioned well apart. Projects like these are great fun and, with a vivid imagination like mine, well …!



Sketches from observations done with my 12-inch telescope at 218x, yielding a field of 23 arc-minutes accross. Left is the galaxy-pair NGC 4782/3 and right, Canali or "Star Gate". North is at the top and east to the left.

One of the most beautiful star groupings can be found in the northernmost part of Corvus, only one degree SW of the Sombero galaxy (M104). The name "**Star Gate",** comprising of only six stars, fits this grouping like a glove. It forms a near perfect equilateral triangle consisting of one magnitude 9 star and two golden-yellow magnitude 6 stars. Another almost perfect equilateral triangle of two magnitude 7 and one magnitude 11 star nestles inside... a breathtaking composition which is well defined against a bare star-field and never fails to impress me. Once you've seen it, you will never let it out of your mind again.

In an area strewn with galaxies, the Crow constellation offers another unique merging pair of galaxies. **NGC 4782/3** is seen in the NE part of Corvus, very close to the Virgo constellation boundary. This unique object is also known as the Dumbell or Double Galaxy. It comprises two prominent, bright, interacting, eliptical galaxies, barely 0.7′ apart, seen as two large misty patches at 95 power. Higher magnification (218x) brings the true character of the two exceptional galaxies to the fore. They are soft, round nebulae with quite flimsy edges slowly brightening towards their nuclei. NGC 4782, which is situated north, appears somewhat fainter and smaller in contrast to NGC 4783, which is slightly hazier and therefore perhaps appears to be larger. This unique object is about 200 million light years away, yet surprisingly bright. About 7′ towards the NE, the much fainter NGC 4792 can be seen as a small soft elongated EW haze with another member, NGC 4792 to the SE, even fainter.

The Corvus constellation is truly packed with exceptional objects and makes the cool autumn months unforgettable. I did not find it at all strange when I heard a crow calling out in the distance as morning broke after observing it. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 4027	Galaxy	$11^h59.5^m$	-19º16′	11.2	3.8′x2.3′
NGC 4038	Galaxy	12 01.9	-18 52	10.5	5.4′x3.9′
NGC 4039	Galaxy	12 01.9	-18 53	10.3	5.4′x2.5′
TV Corvi/Tombach V	Variable star	12 20.4	-18 27	18-12	
NGC 4361	Planetary	12 24.5	-18 48	10.3	45"
Delta Corvi	Double star	12 29.9	-16 31	3.0 & 9.2	sep 24"
Canali/Star Gate	Asterism	12 35.8	-12 01	6.5	7.5′
Streicher 23	Asterism	12 47.3	-19 03	9.5	25′
NGC 4782	Galaxy	12 54.6	-12 34	11.7	1.8′x1.7′
NGC 4783	Galaxy	12 54.6	-12 33	11.5	1.8′x1.7′