



The Flying Star-Dove

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Image source: Stellarium.org

Columba the Dove, a small southern starry constellation of only 270 square degrees, is one that has many tales woven around it. The original name for this constellation was Columba Noae or Noah's Dove, with the starry bird appearing to be flying just off the compass of Jason's ship, the combined constellations of Vela, Carina, Puppis and Pyxis. The constellation appeared correctly on Bayer's plate of Canis Major but was formally published by Augustin Royer in 1679. According to ancient tales the starry dove was being sent out by Jason to search for dry land in the hope of bringing back the branch and leaf of an olive tree.

If we look at earthly doves and pigeons, there are quite a variety of different species all over the world. The million dollar



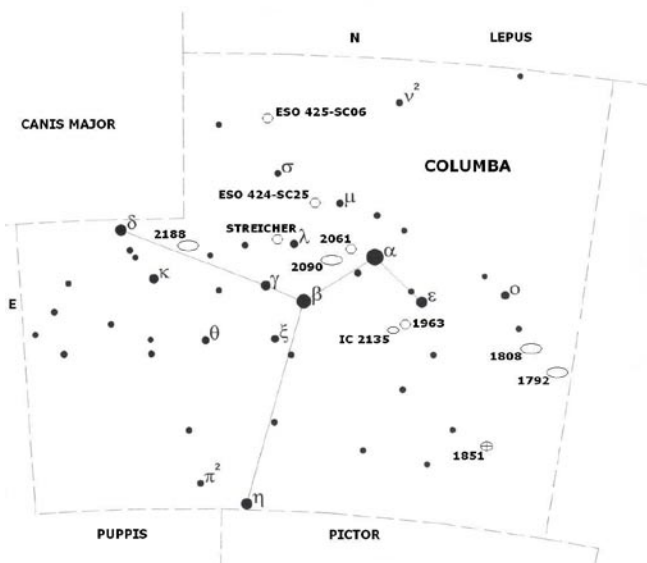
Fig. 1 Speckled Pigeon *Columba guinea* chosen because of the star-like markings on its feathers.

question is which one inspired Bayer and the French astronomer Royer to create the constellation Columba. I would guess the most likely would be our plain garden dove, the Feral Columba Livia, or perhaps the Cape Turtle Dove. It is believed that this dove was once a tamed bird originally from North Africa and Europe (*Newman's Birds of South Africa*). Or to speculate further: Could it perhaps have been the speckled Columba Guinea, also known as the rock dove, known for its outstanding red eyes and speckled feathers? Then there is the so-called laughing dove that sings its storybook songs of love. Or wait a minute ... our starry Columba could possibly be named after the so-called carrier pigeon, used to convey mail, bringing good hope.

Among the feathers of Columba can be seen one of the most beautiful deep-sky objects, **NGC 1851**, a rich globular cluster which is certainly not shy about displaying its outstanding qualities. Modern constellation reform moved NGC 1851 from the constellation Caelum into Columba. NGC 1851 is a large, compact and bright globular cluster situated below the dove's tail feathers in the far south-

western part of the constellation. The stars in this beautiful globular cluster, also known as Bennett 32 and Dunlop 508, extend unusually far into the field of view. The focus of this object hosts a very compact, small, hazy, unresolved core that gives the viewer the feeling of looking through frosted glass. A soft halo expands further out from the core, covering about

two-thirds of the whole. A multitude of faint stars appear to burst outwards and work their way outwards to the outer edge, which is most interesting and displays splashes of faint star strings at ran-



dom. One such, cuts through the southern edge of the globular (see sketch and picture by Lucas Ferreira). This globular reminded the author of a smaller version



Fig. 2 NGC 1851 picture, taken by Lucas Ferreira. By comparing this with Fig. 3, the pearl-like string of stars can be readily seen.

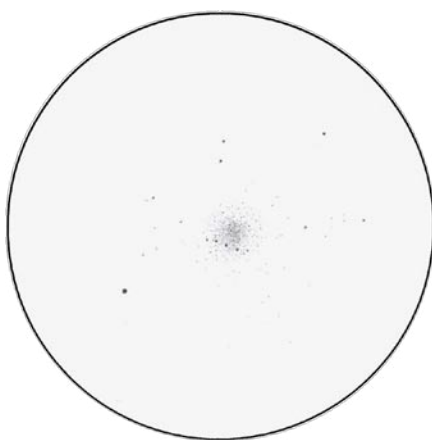


Fig. 3 The author's sketch of globular cluster NGC 1851 in which the stars referred to in Fig. 2 are clearly visible.

of the famous globular cluster NGC 104 situated in the constellation Tucana. Australian friend and astronomy working partner Jenni Kay has observed the globular through her 8x50 binoculars and sees it as a very bright, large, round glow with a brighter compact core. The late Walter Scott wrote that this ball of stars is quite bright and must be a fine sight from the southern hemisphere. According to well-known amateur Steve Coe, using averted vision makes this globular cluster appear much larger. Steve Gottlieb notes: "A good deal of resolution is evident in this globular, brightens evenly and then near centre steep to an almost stellar pip."

The constellation is not abundantly endowed with deep-sky objects, and even then most of them are fairly faint. However, a thorough search has revealed some very special objects that have produced some unexpected surprises.

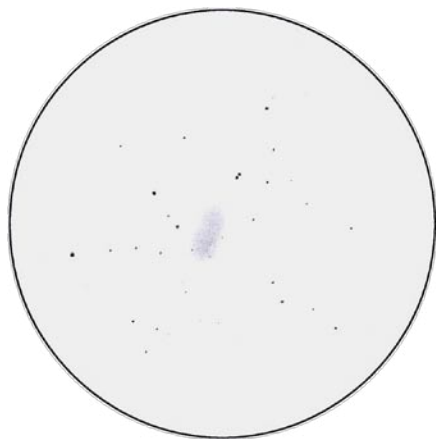


Fig. 4 NGC 1792 a cigar-shaped galaxy, also known as Bennet 29.

The galaxy **NGC 1792** is situated up against the western boundary between Columba and Caelum, about halfway between NGC 1851 and the double star gamma Caelum, is located literally on the imaginary line separating the two constellations. NGC 1792, appears as a beautiful oval glow, elongated in a north-west to south-east direction and seen quite well against an outstanding star field. The galaxy displays an even surface brightness with a soft, wool-like outer edge, which at higher magnification appears extended. The northern edge is slightly hazier and a few faint stars can be seen close to the western side (see sketch). This cigar-shaped galaxy, also known as Bennett 29, is a close neighbour of NGC 1808 situated 36 arc minutes to the north-east.

NGC 1808 is an outstandingly bright, barred spiral galaxy in a north-west to south-east direction, with a brightness that is uniform across the surface. Higher magnification reveals a somewhat rougher texture with mottled areas and a few brighter patches randomly seen on its surface. With careful observation the nucleus brightens rapidly to a small, compact light-point. With careful observation there also appears to be a flimsy outer envelope around the galaxy. South of the galaxy is a chain of magnitude 10 stars in a line almost east to west. The galaxy is, in fact, a somewhat abnormal galaxy, displaying nuclear hot spots and starburst activity rather reminiscent of the galaxy M82 in the constellation Ursa

Mayor. NGC 1808 is also known as Bennett 31 and Dunlop 549 and is included in the Arp and Madore's Catalogue of Southern Peculiar Galaxies and Associations.

Credit for the discovery of this peculiar galaxy has historically gone to the Scottish astronomer James Dunlop. Dunlop was born on 31 October 1793 at Dalry near Glasgow, and 33 years later found himself in Australia at the eyepiece of a 9-inch f/12 reflector searching the southern sky for nebulae and clusters. He produced a catalogue of 629 objects for the southern hemisphere.

The magnitude 3.8 epsilon Columbae, could possibly be said to indicate the beak of the heavenly dove, situated on the northern edge of the cluster **NGC 1963** (*New General Catalogue*), it is an

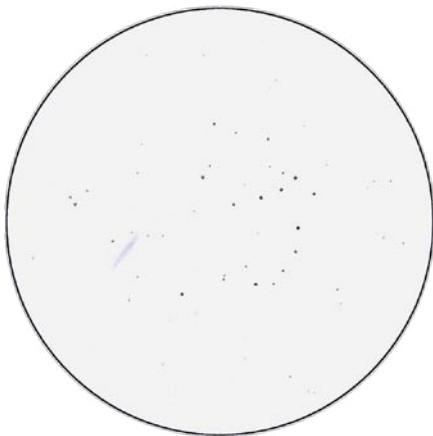


Fig. 5 The small open cluster NGC 1963, discovered by John Herschel, which is often confused with the galaxy IC21356.

outstanding group with a slightly confusing or controversial identification. John Herschel, who discovered the object, described it as a cluster of various magnitude stars, arranged almost exactly like a bow. Brighter stars representing the bow and another few distinct stars forming the tip of the V-shaped arrow point (see sketch). The galaxy **IC 2135/6** (*Index Catalogue*) is the indicated as the controversial object situated on the eastern tip of the star group. The galaxy displays a small soft ray of light in a north-west to south-east direction.

Auke Slotegraaf says he does not know who originally described IC 2135/6 as NGC 1963. Initially, the thought was that such an object might have formed part of the Revised NGC Catalogue. The coordinates are roughly the same, but NGC 1963 is obviously a cluster according to the description given by John Herschel.

The first ESO/Uppsala survey of the ESO (European Southern Observatory) atlas indicated NGC 1963 to be a cluster. The Reference Catalogue of Galaxies did not list NGC 1963 at all. The Principal Galaxy Catalogue noted an object labelled PGC 17433 also as IC 2135, IC 2136, NGC 1963 and ESO 363-G to be the same object. The Second Catalogue ESO 363-G7 noted IC 2135 and IC 2136 as the same object, according to the astronomer Lewis Swift's inscription. Swift, who was well acquainted with Herschel's work, was looking for new objects that

Herschel had overlooked. Swift therefore would have known NGC 1963 as a cluster and not a galaxy.

Whatever the case may be, it is inappropriate to allocate the number NGC 1963 to the galaxy, as it is obvious what Herschel saw and described. The coordinates of the magnitude 13 galaxy (IC 2135/6) are RA 5h33m12.7 and DEC $-36^{\circ}23'59''$ and it is situated 12 arc minutes towards the east of the cluster NGC 1963.

The brilliant white-blue magnitude 2.6 alpha Columbae, which could be seen as the eye of the starry dove, is situated just 38 arc minutes to the west of the open cluster **NGC 2061**. The cluster, listed as a doubtful object, displays a loose irregular grouping of stars. The brighter magnitude 7.2 (HD 38253 – *Henry Draper Catalogue*) star, is situated on the far northern edge of the grouping, which also has a magnitude 11.6 companion towards the west. The eastern side is less busy with star-light.

Another relatively faint galaxy, **NGC 2090**, is situated 50 arc minutes further east of NGC 2061 and displays an extended spindle shape in a north-south direction. The galaxy displays a barely brighter centre. Although faint it can be detected with careful observation, dark skies and high magnification. This object has also been listed as Dunlop 594.

Another possible **STREICHER** asterism is situated only 20 arc minutes east

of magnitude 4.8 lambda Columbae, but which has not yet been confirmed by the *Deep-sky Hunters Catalogue*. Seven magnitude 9 stars in a half square shape with the open end towards the east. This grouping is quite outstanding against the background star field.

The European Southern Observatory (ESO) is situated on the eastern slope of the La Silla mountains in Chile, close to the Atacama Desert, high up into the Andes Mountains. The magnitude 4.8 lambda and magnitude 5 mu Columbae stars are situated just north of alpha Columbae, the stepping stones to one such numbered ESO cluster. The various ESO clusters are in a class of their own and could be most aptly described as obscure. Stars in small groupings and strings read like a book full of surprises. Although

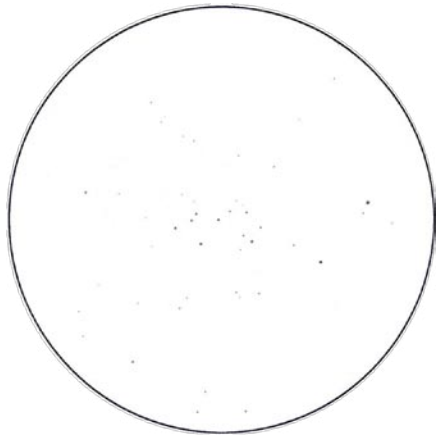


Fig. 6 The small open cluster ESO 424SC25 contains about 10 stars of the same magnitude.

these are not necessarily bright objects, they do have certain exceptional and unique characteristics and each one can be described as special. The cluster **ESO 424-SC25** is a lovely group of approximately ten stars ranging from magnitude 10 to magnitude 11. It is a very pleasing grouping showing a true arrowhead pointing east with a sling of faint stars curling east away to the west (see sketch). What is special about this group is that most of the stars display a yellow to orange colour. The brightest star, situated at the southern end of the group, is magnitude 9.4 (TYC 7061915 – *Tycho-2 Catalogue*). The field stars are slightly brighter than the cluster itself.

Another **ESO 425-SC06** cluster can be found in the far north-east of the constellation barely 1.5 degrees west of the constellation Canis Major. A small string of four magnitude 12 stars in a north-south direction is slightly bent towards the east with the brighter magnitude 10.4 (TYC 6504813) star situated on the eastern end of the grouping. High magnification brings fainter stars to the fore which sprays out towards the west (see sketch). Not much of a cluster and very difficult to discern among the stars in the field.

In the author's "visualisation" of the constellation, the dove's fantail would be represented by the magnitude 3.8 delta Columbae. The galaxy **NGC 2188** appears to be riding on the back of the

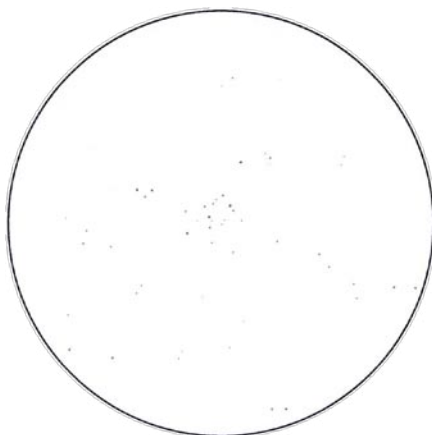


Fig. 7 This small open cluster, **ESO 425SC06**, has four bright stars with a string of fainter stars to the west.

starry dove 2.5 degrees south-west of delta Columbae. The galaxy displays a beautiful elongated spindle in a north to south direction. The southern edge looks wider and more defined, whereas the northern part becomes fainter and thinner. The nucleus of this galaxy is obscured in the hazy surface, making it difficult to see. The brightest star in the field is a magnitude 8.1 star situated just south-west of the galaxy in a busy star field. In some ways this object reminds me of a very faint comet, and deep pictures show a little kink towards the southern tip of the galaxy.

While it may be difficult to find bird shapes among the stars, the ordinary dove is no stranger to local gardens. Little wonder, then, that an image of the common dove has found a place among the stars.

deep-sky delights

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 1792	Galaxy	05 ^h 05.2	-37°59'	9.9	5.5'x2.5'
NGC 1808	Galaxy	05 07.7	-37 31	9.9	5.2'x2.3'
NGC 1851	Globular Cluster	05 14.1	-40 03	7.2	11'
NGC 1963	Open Cluster	05 32.1	-36 23	11	14'
IC 2135/6	Galaxy	05 33.2	-36 24	13	2.8'x0.6'
NGC 2061	Open Cluster	05 44.1	-33 56	11	10'
NGC 2090	Galaxy	05 47.1	-34 14	11	4.5'x2.3'
ESO 424-SC25	Open Cluster	05 49.8	-32 28	10.5	8'
ESO 425-SC06	Open Cluster	06 04.8	-29 11	12	5'
STREICHER	Asterism	05 54.7	-33 47	9	18'
NGC 2188	Galaxy	06 10.1	-34 07	11.6	5.5'x1.0'

A	α	alpha	N	ν	nu
B	β	beta	Ξ	ξ	xi
Γ	γ	gamma	O	ο	omicron
Δ	δ	delta	Π	π	pi
E	ε	epsilon	P	ρ	rho
Z	ζ	zeta	Σ	σ	rho
H	η	eta	T	τ	tau
Θ	θ	theta	Υ	υ	upsilon
I	ι	iota	Φ	φ	phi
K	κ	kappa	X	χ	chi
Λ	λ	lambda	Ψ	ψ	psi
M	μ	mu	Ω	ω	omega