



The Ancient Starry Ship

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Image source: Stellarium.org

Vela was part of Jason and the Argonauts' vessel, originally named *Argo Navis*, used, amongst others, in the hunt for the Golden Fleece. Until 1750 this ship was one large and sprawling constellation when the French celestial cartographer, Nicolas-Louis de Lacaille was producing charts of the southern hemisphere skies and dismembered it into four pieces. Puppis the poop deck, Vela representing the sails of the mighty ship, firmly attached to Carina the keel and Pyxis the ship's compass.

Vela is rich in a variety of deep-sky objects. It would take me a considerable amount of time and space to describe all these delights to you. This large constellation is not at all shy to show off its wonderful clusters and nebulae, beside other objects – far too many to deal with in one article. Such is the beauty of a constellation having the Milky Way as a close partner. There is no need to search out any objects – they are freely available.

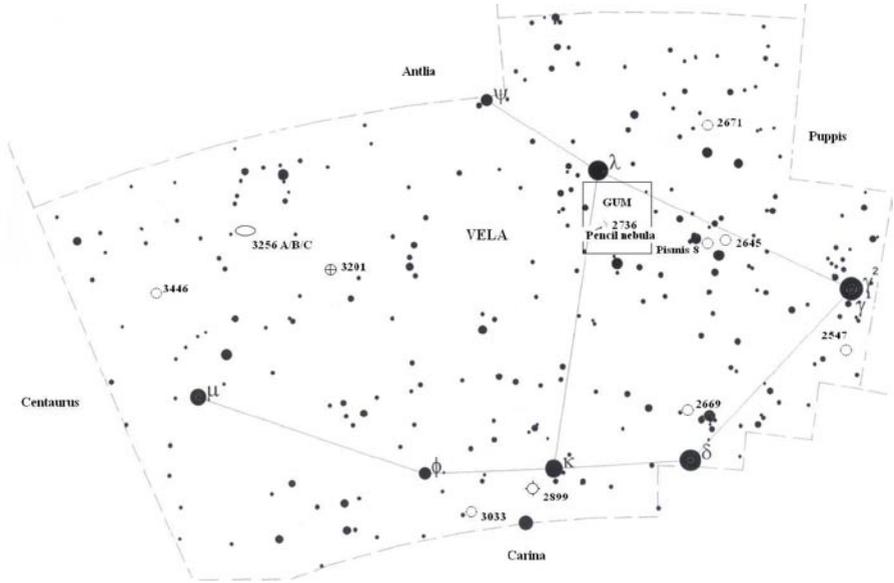
The False Cross is found in the sails and consists of the magnitude 2 stars, kappa & delta Velorum, and the two borrowed stars, iota & epsilon Carinae. Due to the subdivision of *Argo*, Vela has no alpha or beta stars, but contains a few dozen stars brighter than magnitude 5. Delta Velorum was found to

be a double-star in 1894, when the pair was much wider apart in their 142-year orbit. When John Herschel undertook his southern sky-survey in 1830s, it was too close for discovery. In 1997 delta Velorum was found by the Galileo spacecraft to be the brightest example of an eclipsing binary. It has a 45-day period. The system is about 80 light years away from us.

The far western part of Vela is marked by gamma Velorum, which is also the brightest star in the constellation. It is a double-star with a magnitude 7.1 primary and magnitude 9.2 companion. The primary is the brightest Wolf-Rayet star in the sky and one of the hottest known. Since it has a separation of only 0.1 arc second, it is virtually impossible to split with ordinary telescopes. Interesting, this double-star is actually part of a five-star system.

The lovely, rich, open cluster, **NGC 2547** is situated 1.8 degrees south of gamma Velorum and comprises an uneven scattering of brighter stars that mingle well with a mist of fainter members. The white coloured magnitude 6.4 star (HD 68478) dominates the middle part, with two strings of fainter stars running across the group from north

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to south. The brighter string continues for almost 10 arc minutes to the north. A shorter branch is situated to the west inside the group, also going out north, but just half as far. The bulk of this swarm is situated inside the north-western part of the cluster. The cluster, which contains about 100 members, is easily seen in binoculars. The cluster was discovered by Nicolas-Louis de Lacaille in 1751-1752 during his stay at the Cape of Good Hope.

If we draw an imaginary line from gamma to lambda, we find, halfway along it, the cluster **NGC 2645**, which gives the impression of being suspended from the ropes of the sails. Also known as Pismis 6, this very tight group of about a dozen stars brings a close and warm feeling to the observer. This lovely compact group displays a slightly elongated shape in a

north-west to south-east direction, with varied magnitude stars. Its shape could also be described as a zigzag that extends southwards, accompanied by fainter members (see sketch).

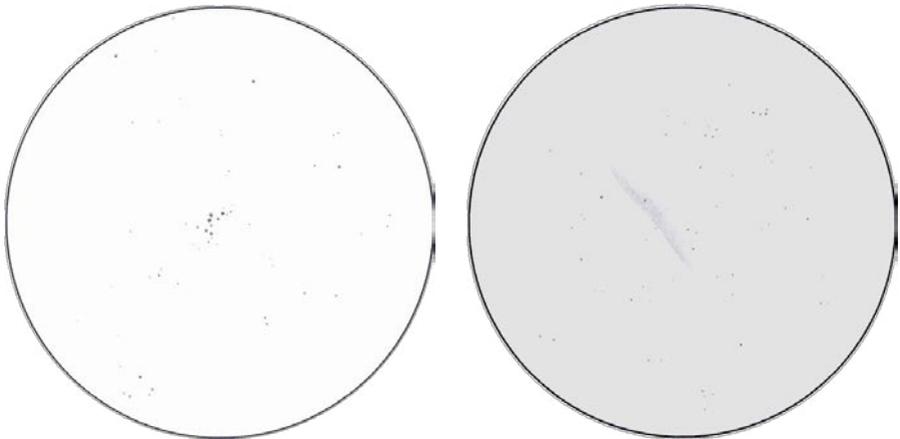
The small group, **Pismis 8**, is situated only 28 arc minutes east of NGC 2645. It is a special cluster with stars displaying colours of white and yellow, and is slightly curved in a north-south direction. Allowing my mind free rein, I imagined I could see a MacDonald's "M" sign in the positioning of the stars, with the open ends of the M towards the western side. Perhaps I was just a little hungry at the time!

Vela is the proud possessor of the great Gum Nebula, higher up against the slopes of the sail, appearing to be caught up in the various nebulae and star groups. Its

fine filaments form streams and loops of nebulosity indicated as Gum 12, 15 and 17. Towards the south-eastern edge of this ancient supernova remnant, **NGC 2736** displays a small flimsy streak of light. This emission nebula displays a fairly straight north-northeast to south-southwest line. The north-eastern side is much more defined, with a softer bulge out on the south-western side. Various filters brought out this object to its full (see sketch). This southern nebula, also known as the famous Pencil Nebula is counterpart to the well-known Veil Nebula, which is located in the northern constellation Cygnus. Although the name Pencil Nebula is appropriate, I just love the designation “Herschel’s Ray”. A memorable object that should linger in one’s mind for a long time. This object was discovered by Sir John Herschel during his stay at the Cape of Good Hope in the years 1834-1838. Named after the Australian astronomer Colin Stanley Gum,

who published his finding in 1955, this complex is thought to be one of the closest supernova remnants, of over a million years old.

Magnitude 2.1 lambda Velorum points the way 3 degrees north-west to another beautiful open cluster, **NGC 2671**. It is situated in the northern extreme of the constellation. Also known as Bennett 40a, the cluster which is not very bright, displays a large group with a relatively dense core. The shape can also be described as roughly triangular and merges well with faint nebulosity. The stars are well strung together with a denser combination towards the north-east, gradually thinning out towards the south-west, giving it a comet-like appearance. Two sets of double-stars share the field of view towards the eastern edge of the cluster. Another discovery by Sir John Herschel during his Cape years.



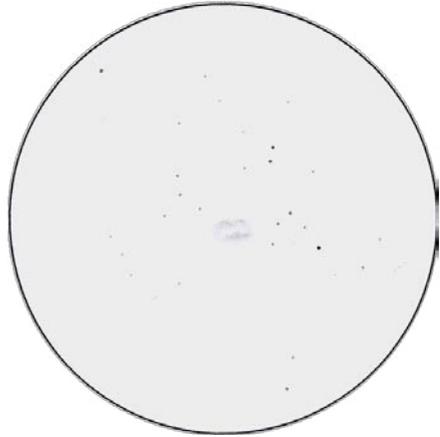
Sketches of NGC 2645 (left) and NGC 2736 (right).

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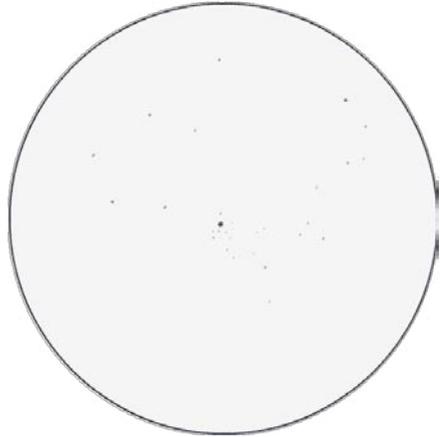
On the south-western border, between the constellations Carina and Vela, 1.7 degrees north of delta Velorum, the character-filled **NGC 2669** cluster takes up its seat. It is a very rich cluster, relatively compact, with a sort of V-shape pointing towards the south. What actually held my eye was the knot of faint stars in the eastern part displaying an eye-catching trapezium. The group Van den Bergh-Hagen 52 probably forms the northern part which extends away from the southern group.

Between the northern border of Carina and kappa Velorum, a beautifully bright planetary nebula claims its place amongst the busy star-field. The soft glow of **NGC 2899** is easily visible in moderate-sized telescopes. However, high power is needed to truly observe detail and get a hint of its shape. Add to this an O_{III} filter to reveal the nebula's kidney shape in an elongated west-northwest to east-southeast direction. With averted vision the nebula can be broken down along its centre into a long thin opening and a dent just visible towards the northern edge. The western- and southern sides are (sort of) washed out, fading into a lovely field of view (see sketch). John Herschel discovered this planetary nebula in 1835 from the Cape.

Just 3 degrees east of NGC 2899, a different kind of cluster can be seen in its decoration of stars. **NGC 3033** displays about fifteen very faint stars, gathered around a prominent yellow-coloured magnitude 6 star (HD 85250). This star is the focus of the group, creating a homely picture of a



NGC 2899 (above) and NGC 3033 (below).



mother hen with her chicks following her in a north-east direction (see sketch). Quite amazing!

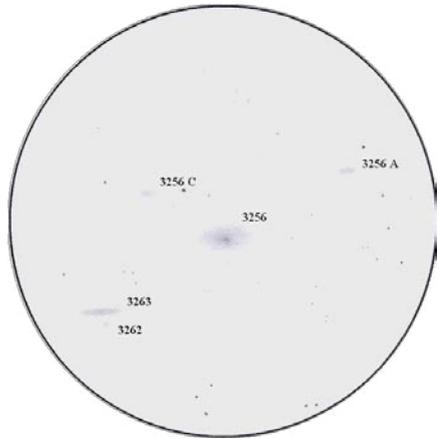
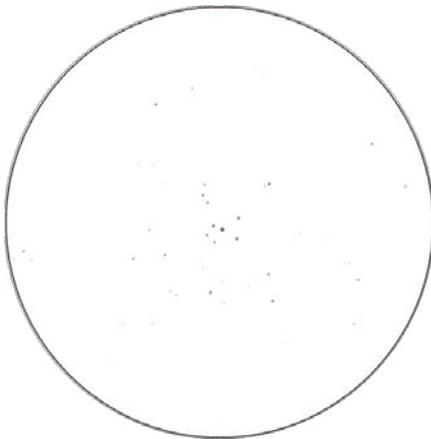
I said earlier that the constellation Vela contains many star clusters, so please indulge me as I share another one with you – the outstanding group, **NGC 3228**, which is situated halfway between the magnitude 3.5 phi and magnitude 2.7 mu Velorum. An impressive small group of bright stars with

a notable form that strongly reminds of a daisy, complete with stem attached. The stars are unattached and strongly defined against the background stars (see sketch). Towards the south of this little flower impression, more stars can be seen that could be part of this group, giving it a north-south elongated shape in another context. Bright and outstanding, just like a summer daisy in bloom, despite its estimated age of about 42 million years! Another discovery by Nicolas-Louis de Lacaille from the Cape.

Despite the scarcity of globular clusters in Vela, we find an exceptional example only 5.8 degrees north-west of the magnitude 2.7 mu Velorum. **NGC 3201**, also known as Bennett 44, can be easily spotted using binoculars. The globular displays a mass of delicate star-strings radiating away from the somewhat loosely concentrated core and spherical halo. Faint stars are widely dispersed towards the fringing edges, ex-

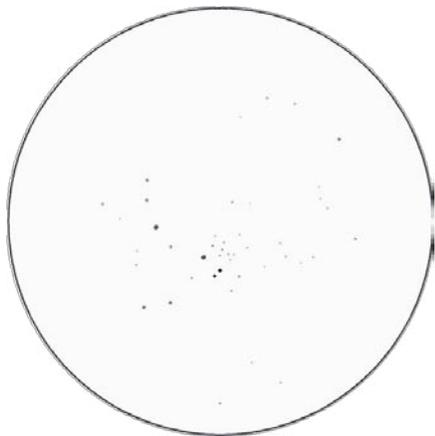
tending into the rich star-field. A few knots of faint members and dark patches can be detected inside the northern area. My attention was held by the dark lane towards the western extreme of the globular, creating the impression of a piece that was cut off. The globular cluster was discovered by Sir John Herschel with an 18-inch f/13 speculum telescope during his Cape years (1834-38). James Dunlop however laid eyes on this cluster on the 28 May 1835.

It is unusual to find galaxies so close to the Milky Way, yet Vela offers a dozen or more NGC galaxies in the eastern extreme of the constellation, spilling over into Antlia. The **NGC 3256** group contains five galaxies, situated 3 degrees north-east of the globular cluster NGC 3201 and covering an area of only 46 arc minutes. However, NGC 3256, the largest and brightest, displays a soft oval in an east-west direction. Higher power reveals the galaxy's small stellar



Sketches of NGC 3228 (left) and of the NGC 3256 group (right).

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NGC 3446.

core, surrounded by a slightly brighter halo. The haziness around the northern section of the oval extends slightly further north. NGC 3256C is the closest member but very faint, situated 18 arc minutes to the north-east of the main galaxy. In the same field of view, NGC 3256A displays a slightly brighter oval in an east-west direction, 23 arc minutes to the north-west

of NGC 3256 (see sketch). Two other galaxies, (NGC 3263 and NGC 3262), divide NGC 3256 and member NGC 3256B, which is situated 32 arc minutes further south.

It is just appropriate to end off this article with yet another open cluster. **NGC 3446** is a special cluster with a dainty appearance, 4 degrees east of the above mentioned galaxy group. Around two dozen stars clearly concentrated into two groups. The eastern part seems brighter with a pair of stars at the southern tip whereas the north-western area includes a gathering of fainter stars (see sketch).

Cruise along the starry wind. The bow of the ship appears filled with jewels. To those who choose to feast their eyes onto them, the constellation Vela is more than willing to engage in a generous sharing of its deep-sky treasures. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 2547	Open Cluster	08 ^h 10.2	-49°15'	4.7	25'
NGC 2645	Open Cluster	08 38.9	-46 14	9	3'
PISMIS 8	Open Cluster	08 41.6	-46 16	9.5	3'
NGC 2671	Open Cluster	08 46.2	-41 53	11.6	5'
NGC 2669	Open Cluster	08 46.3	-52 56	6	14'
NGC 2736	Emission Neb	09 00.4	-45 54	10	20'x3'
NGC 2899	Planetary	09 27.1	-56 06	11.8	117"
NGC 3033	Open Cluster	09 48.8	-56 25	8.8	5'
NGC 3201	Globular Cluster	10 17.6	-46 25	6.8	18'
NGC 3228	Open Cluster	10 21.8	-51 43	6	18'
NGC 3256A/B/C	Galaxy	10 27.8	-43 54	11.3	7.4'x3.1'
NGC 3446	Open Cluster	10 52.3	-45 10	9.6	6.5'