



The Binocular Sky

No. 112
March 2021

Newsletter

Introduction



Welcome to March's **Binocular Sky** Newsletter.

As regular readers will know, my intention is to highlight some of the binocular targets for the coming month. This is primarily intended for visual astronomers, with binoculars or small telescopes, in the UK, but it should have some utility for observers anywhere north of Latitude 30°S and possibly even further south (if you are further south, please let me know!)

In the Solar System, **Uranus** is still available in the evening – just – but will be a difficult observation by the end of the month. **Vesta** is approaching opposition and will be naked eye brightness for a few days if you have both good skies and good young eyes ([page 9](#)).

The “extra star” in Cygnus, **χ Cygni**, is at maximum brightness ([page 6](#)). You’ll need to nab it in the pre-dawn before the sky gets too bright.

Occultation watchers have a graze of **52 Geminorum** to look forward to on the 22nd; the graze track passes through England, Wales and Ireland ([page 8](#)).

If you would like to receive the newsletter automatically each month, please complete and submit the [subscription form](#). You can get “between the newsletters” alerts, etc. via  and .

The Deep Sky

([Hyperlinks](#) will take you to finder charts and more information on the objects.)

One of the most noticeable things about the night sky in March is how rapidly the nights shorten. Now is the time to take a last look at some of those winter favourites before they are lost to us for several months. The [Pleiades](#) (M45) and the [Great Orion Nebula](#) (M42) culminate before Civil Twilight ends, as do the [trio of open clusters](#) in Auriga, and M35 in Gemini. While you are looking at M35, also see if you can identify two smaller open clusters, NGC 2158, which is half a degree to the SE, and the slightly more difficult IC 2157, which is a degree to the ESE. Also high are [M44](#) (*Praesepe*) and [M67](#), two fine open clusters in Cancer. Note how the brighter stars in both of these clusters are concentrated near the middle. This is due to a phenomenon called mass segregation: gravitational interactions between heavy and light stars cause the latter to move faster, and hence further, from the centre of the cluster. Lower in the southern sky are more open clusters [M46](#), [M47](#) and, near Sirius, [M41](#).

Open (also called 'Galactic') Clusters are loosely packed groups of stars that are gravitationally bound together; they may contain from a few dozen to a few thousand stars which recently formed in the galactic disk.

In the north, the rather indistinct open cluster, [NGC1502](#), is brought to prominence by an asterism, that is named [Kemble's Cascade](#), in honour of Fr. Lucian Kemble, a Canadian amateur astronomer and Franciscan friar, who discovered it with a 7x35 binocular. He described as "*a beautiful cascade of faint stars tumbling from the northwest down to the open cluster NGC 1502.*" It is one of the most pleasing objects in small and medium binoculars, although the imagination of it being a ribbon waterfall plunging into a splash-pool needs some gravity-defying modification because, in late winter/early spring evenings, the waterfall flows upwards!

One of the best objects for small binoculars is [Melotte 111](#), the cluster that gives *Coma Berenices* its name. In Greek mythology, it is the hair of Queen Berenice, and the Romans saw it as the veil dropped by Thisbē in [Ovid's tale of star-crossed lovers](#), but one of my favourite myths, from the

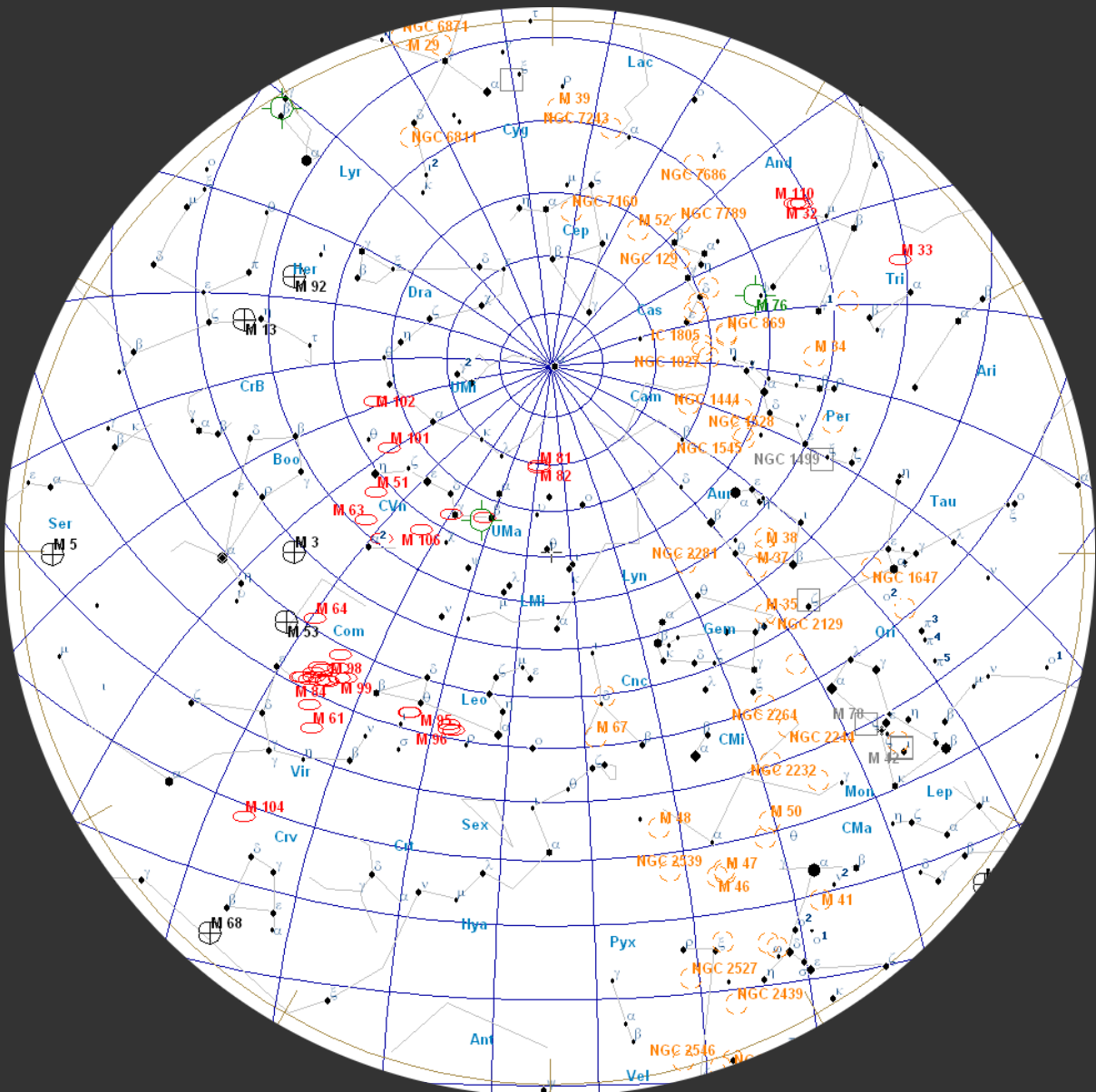
51°N

March 01, 23:00 UT

March 15, 22:00 UT

March 31, 21:00 UT

(chart is "clicky")



North Africa, has it as a watering hole. The lion (Leo) startled a gazelle that was drinking there, and it leapt away to safety, leaving its hoofprints as the pairs of stars ν and ξ , λ and μ , and ι and κ UMa: the *Three Leaps of the Gazelle*.

While you are taking your last fill until autumn of the Orion Nebula, take the time to study R Leporis (Hind's Crimson Star), which is fading now and is a candidate for the reddest star in the heavens. To the north of that, just to the SE of Alnitak (ζ Ori) is the multiple star σ Orionis.

Although The Great Andromeda Galaxy, M31 and M33 (The Pinwheel), are sinking lower into the evening twilight, they are still observable this month.

M31 is still a naked eye object in moderately dark skies. It is large and bright enough to be able to withstand quite a lot of light pollution (which makes it available to urban observers). M33 has a low surface-brightness and benefits from lower magnification. This generally makes it easier to see in, say, a 10x50 binocular than in many "starter" telescopes. High in the northern sky, the Ursa Major pair of Bode's Nebula (M81) and the Cigar Galaxy (M82) are conveniently placed for most of the night. Later in the evening, look out for the galaxy trios in Leo (M95/96/105 and M65/66/NGC3628) and Markarian's Chain in Coma Berenices rising in the west, although they are not at their best until after midnight. If you have a big binocular, also observe the edge-on NGC4565 (Berenice's Hair Clip), which is next to Melotte 111, the cluster that gives Coma its name. A galaxy in this region that is often ignored, owing to the lack of nearby bright stars, is NGC 3521, which is bright enough to be sometimes visible with averted vision in a 10x50, although I suggest a minimum of 70mm for ease of observation. It is considerably larger than any of the M95/96/105 trio and is as bright as M96.

If you have binoculars of 70mm aperture or (preferably) greater, see if you can find and identify The Ghost of Jupiter (NGC 3242), a planetary nebula in Hydra. It is a difficult object because it is low in the sky, even from southern Britain.

If you missed it last month, take this opportunity to appreciate Herschel's Garnet Star, μ Cep, which is at a

Galaxies are gravitationally bound "island universes" of hundreds of billions of stars at enormous distances. The light that we see from M31, for example, left that galaxy around the time our technology consisted of rocks, sticks and bones.

Planetary Nebulae are short-lived (a few tens of thousands of years) masses of gas and plasma that result from the death of some stars. They have nothing to do with planets, but get their name from the fact that, in early telescopes, they had the appearance of giant ghostly planets.

comfortable elevation early in the evening. The wide field of medium-sized binoculars enables you to hold it in the same field as *Alderamin (α Cep)*, so you can appreciate the colour difference.

Lastly, if you enjoy colourful star-fields, take a look around the “back” of Leo, where there are some very pretty groups of stars within the rectangle bounded by β , δ , θ , and *93 Leonis* and, later this month, the region just to the south of σ *Virginis*.

For interactive maps of Deep Sky Objects visible from 51°N, you can visit: https://binocularsky.com/map_select.php

March Deep Sky Objects by Right Ascension

Object	Con	Type	Mag	RA (hhmmss)	Dec (ddmmss)
M45 (the Pleiades)	Tau	oc	1.6	034729	240619
Kemble's Cascade	Cam	ast	9.0	035752	630711
R Leporis (Hind's Crimson Star)	Lep	vs	8.2	045936	-144821
M38 (NGC 1912)	Aur	oc	6.4	052842	355117
M42 (NGC 1976, The Great Orion Nebula)	Ori	en	4.0	053517	-052325
M36 (NGC 1960)	Aur	oc	6.0	053617	340826
σ Orionis	Ori	ms	3.8	053845	-023553
M37 (NGC 2099)	Aur	oc	5.6	055218	323310
M35 (NGC 2168)	Gem	oc	5.1	060900	242100
M41 (NGC 2287)	CMa	oc	4.5	064559	-204515
M47 (NGC 2422)	Pup	oc	4.4	073634	-142846
M46 (NGC 2437)	Pup	oc	6.1	074146	-144836
M44 (NGC 2632, Praesepe, the Beehive Cluster)	Cnc	oc	3.1	083957	194020
M67 (NGC 2682)	Cnc	oc	6.9	085124	114900
NGC 3242 (the Ghost of Jupiter)	Hya	pn	8.6	102446	-183833
M95 (NGC 3351)	Leo	gal	10.6	104357	114211
M96 (NGC 3368)	Leo	gal	10.1	104645	114912
M105 (NGC 3379)	Leo	gal	10.5	104749	123449
NGC 3521	Leo	gal	10.0	110548	-000215
M65 (NGC 3623)	Leo	gal	10.1	111855	130526
M66 (NGC 3627)	Leo	gal	9.7	112015	125924
Leo star fields	Leo	stars	>5.5	113000	174500
Melotte 111	Com	oc	1.8	122430	260122
Markarian's Chain	Vir	gal	9.9	122611	125647
NGC 4565 (Berenice's Hair Clip)	Com	gal	9.9	123620	255914
μ Cep (Herschel's Garnet Star)	Cep	vs	4.0	214330	584648

Variable Stars

Mira-type stars near predicted maximum (mag < +7.5)		
Star	Mag Range	Period (days)
χ Cyg	3.3-10.2	408.5

Selection of Binocular Variables (mag < +7.5)			
Star	Mag Range	Period	Type
U Cep	6.8-9.2	2.5d (increasing)	Eclipsing binary
AR Cep	7.0-7.9	116	Semi-regular
RX Cep	7.2-8.2	55	Semi-regular
TX Psc	4.8-5.2	-	Irregular
RR Lyr	7.06-8.12	0.57d	RR Lyr
TX UMa	7.0-8.8	3.06d	Eclipsing binary
R Sge	8.0-10.4	71d, 1112 d	RV Tau
U Sge	6.5-9.3	3.38d	Eclipsing binary
DY Vul	8.4-9.7	-	Irregular
U Vul	6.7-7.5	7.99d	Cepheid
X Cyg	5.9-6.9	16.39d	Cepheid
SU Cyg	6.4-7.2	3.84d	Cepheid
AF Cyg	6.4-8.4	92.5	Semi-regular
TW Peg	7.0-9.2	90, 956	Semi-regular

Double Stars

Binocular Double Stars for March			
Star	Magnitudes	Spectral Types	Separation (arcsec)
α Leo	1.4, 8.1	B8, G	176
7 Leo	6.3, 9.3	A0, F8	41
τ Leo	5.0, 7.4	K0, G5	89
δ Cep	4.1, 6.1	F5, A0	41
62 Eri	5.4, 8.9	B9, B8	67
τ Tau	4.3, 7.0	B5, A0	63
ν Gem	4.1, 8.0	B5, A0	113
ζ Gem	4.0, 7.6	G0, G	101
ι Cnc	4.0, 6.0	G5, A5	31
65 Uma	6.7, 7.0	A3, B9	63
α Cvn	2.9, 5.5	A0, F0	17.5

The Solar System

(Low resolution charts may be "clicky" for higher resolution alternatives)

The Moon

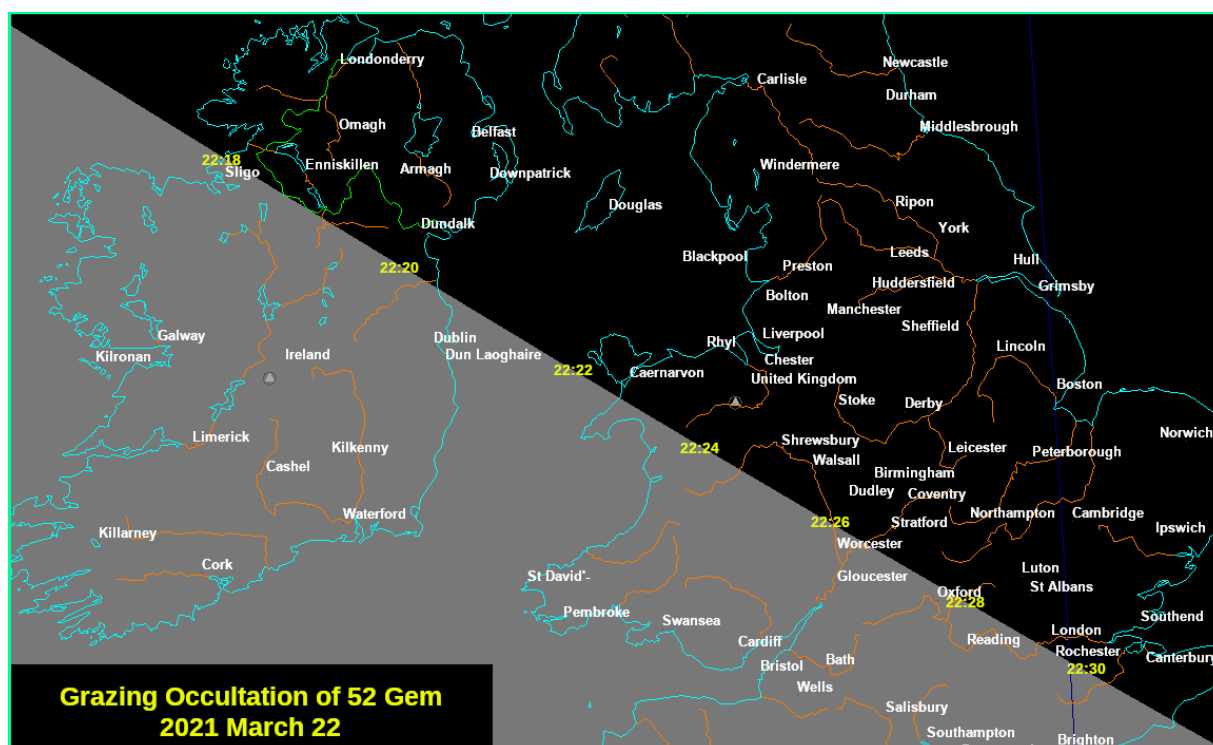
March 06	Last Quarter
March 13	New Moon
March 21	First Quarter
March 28	Full Moon

Lunar Occultations

Data are for my location and may vary by several minutes for other UK locations. The phases are (**D**)isappearance, (**R**)eappearance and (**Gr**)aze; they are dark-limb events unless the Cusp Angle is negative. The highlight is the grazing occultation of 52 Gem on the 22nd (see map below).

Lunar Occultations March 2021 50.9°N 1.8°W

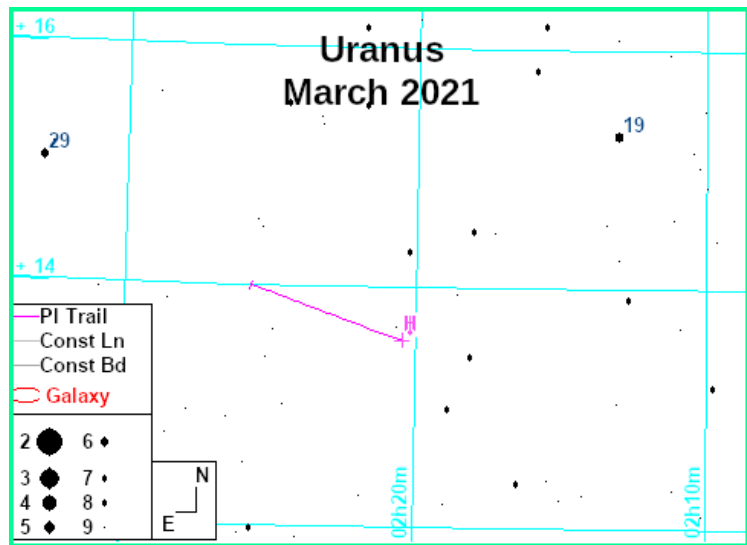
Date	Time (UT)	Phase	Star	Spectral Type	Magnitude	Position Angle	Cusp Angle	Distance to Graze Track
Mar 03	02:53:14	R	96 Vir	G8	6.5	284	87S	
Mar 04	04:08:55	R	nu Lib	K5	5.2	243	48S	
Mar 05	04:26:05	D	ome-1 Sco	B1	3.9	90	-79N	
Mar 05	05:34:05	R	ome-1 Sco	B1	3.9	306	56N	
Mar 05	06:04:55	R	ome-2 Sco	G6	4.3	276	86N	
Mar 22	21:50:02	D	V0356 Gem	A1	6.9	86	78N	
Mar 22	22:18:16	D	52 Gem	M1	5.8	28	20N	
Mar 22	22:27:40	Gr	52 Gem	M1	5.8		2.2N	108km in az. 32deg
Mar 23	23:30:29	D	HIP 40293	A4	6.6	92	77N	
Mar 27	18:29:02	D	nu Vir	M0	4.0	78	59N	



Planets

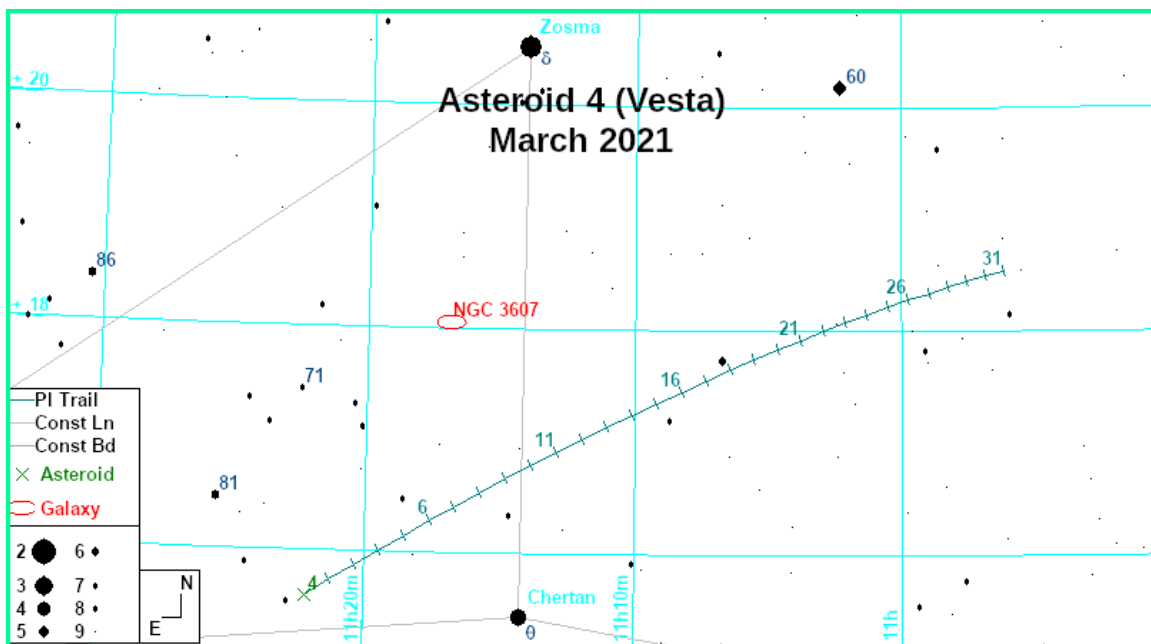
Uranus (mag +5.8) is now fading slightly and is only visible as an early evening object in Aries; it's best observed as soon as the sky is dark enough.

It starts the month between 19 and ξ *Arietis*; and moves 1.3 degrees in the direction of 29 *Ari* during the month. It's much brighter than any of the field stars except those already mentioned, so is easy to identify.



Asteroids

Asteroid 4 (Vesta) starts the month in the same 10x50 field of view as θ *Leonis*. It brightens from mag. +6.1 to +5.9 when it's at opposition on the 4th, then fades to mag. +6.4 by the end of the month.



Public Outreach & Talks

If you find yourself at any of these, do give me a virtual “wave”. Dates are UT.

Mar 3 rd	IET RMS	Ten Ways the Universe Tries to Kill You
Mar 17 th	BAA Wednesday Webinar	Two Eyes Are better than One
Mar 23 rd	Fordingbridge AS Members Forum	Starhopping
Mar 25 th	Westerham U3A	Are We Alone?
Mar 26 th	West Sussex WI	The Star of Bethlehem

Zoom/Webex Talks during the SARS-CoV-2 emergency?

I regularly give talks, on *Binocular Astronomy* and numerous other astronomical topics. During the current “lockdown” in the UK, I’d be happy to do this – potentially anywhere in the world – on Zoom or Webex if that is of interest.

If you would like a talk for your society/group, [Click here for current talks.](#)

The **Binocular Sky Newsletter** will always be free to anyone who wants it, but if you would like to support it, there are a number of options:

- Purchase one of my books, **[Binocular Astronomy](#)** or **[Discover the Night Sky through Binoculars](#)**.
- Make a small [PayPal](#) donation to newsletter@binocularsky.com

Wishing you Clear Dark Skies,

Steve Tonkin

for

[The Binocular Sky](#)

Acknowledgements:

The charts in this newsletter were prepared with Guide v9.0 from <http://projectpluto.com> or [Stellarium](#) under [GNU Public License](#), incorporating Milky Way panorama ©[Axel Mellinger](#)

Variable star data based on *The International Variable Star Index*

Occultation data derived with Dave Herald's *Occult*

Disclosure: Links to *Amazon* or *First Light Optics* may be affiliate links

© 2021 Stephen Tonkin under a [Creative Commons BY-NC-SA License](#)

