

Virgo

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Virgo

This is the constellation, not the calendar sign. [Virgo the zodiac sign](#) is a fixed 30-degree wedge of the tropical calendar measured from the March equinox, and it now sits about 24 degrees of precession away from these actual stars — the Sun is astrologically "in Virgo" for most of a month before it ever stands in front of this constellation at all. This page is the stars themselves. Virgo is the second-largest of the 88 constellations by area (1,294 square degrees, behind only Hydra, and the largest of the twelve zodiacal constellations), but almost all of that area is dim. One star does the work of announcing it: **Spica**, a hot blue-white giant at the maiden's hand, bright enough to find from a suburban yard, with everything else in Virgo fanning out from it as a loose scatter of third- and fourth-magnitude stars.

Finding it

Use the Big Dipper's handle: follow its curve down to orange **Arcturus**, then keep arcing in the same direction — "arc to Arcturus, then speed on to Spica" — and the next bright point is Spica, low and a little east of due south. Virgo is a spring-into-summer constellation here: it clears the eastern horizon through late winter, stands highest due south in the evening around May, and has set again by the time Scorpius and Sagittarius take over the low south in July and August. At Columbus's latitude, about 40°N, Spica culminates around 39° above the southern horizon — high enough to clear most trees and rooflines, unlike the two constellations that follow it into summer. Virgo is not circumpolar from here; for a stretch of autumn and early winter it sits behind the Sun and isn't up at night at all.

The stars

Star	Ba ye r	RA (h)	De c (°)	M ag	Dist ance	Spectral type	Name
Spica	? Vir	13. 42 0	-11 .16	0. 98	~250 ly	B1 III-IV + B2 V (close binary)	Latin <i>spica virginis</i> , "the virgin's ear of grain"
Porrima	? Vir	12. 69 5	-1. 45	2. 74	~38 ly	F0 V + F0 V (binary, 169-year orbit)	Roman goddess of prophecy
Vindemiatrix	? Vir	13. 03 6	10. 96	2. 85	~110 ly	G8 III	Latin "the grape-gatherer" — its dawn rising marked the start of the vintage
Auva (Minelauva)	? Vir	12. 92 7	3.4 0	3. 38	~198 ly	M3 III (red giant)	Arabic, a lunar-mansion name of uncertain origin
Heze	? Vir	13. 57 8	-0. 60	3. 38	~74 ly	A3 V	Modern (1951) coinage; no documented meaning
Zaniah	? Vir	12. 33 2	-0. 67	3. 89	~246 ly	A2 V	Arabic <i>zawiyah</i> , "corner" — of the old Barking Dog asterism

Zavijava	?	11.	1.7	3.	~36	F9 V
	Vir	84	6	59	ly	
		5				

Arabic *zawiyat al-ʿawwaʿ*, "corner of the barking [dog]"

Spica does more work than the table shows. It is a close binary and a rotating ellipsoidal variable: the two stars orbit so tight — 4.0145 days, barely 0.12 AU apart — that each is pulled out of round by the other's gravity, egg-shaped rather than spherical. As the distorted pair turns, the changing cross-section it presents to Earth makes the combined brightness flicker by a few hundredths of a magnitude on the same period as the orbit. Spica isn't really a star with a companion; it's two stars close enough to share a shape.

It is also the star that gave away precession. Ptolemy reports that Hipparchus, working around 129 BCE, compared his own measurement of Spica's position against one Timocharis of Alexandria had recorded roughly a century and a half earlier, and found the star had shifted about 2° relative to the equinox — too large to be observational error and not explained by any motion of the star itself. Hipparchus concluded the equinox was creeping backward through the stars at a rate of not less than one degree per century. That is the discovery of precession, made from this one star, in this constellation; the fuller chronology is on [Western Zodiac](#).

Myth and history

The name is agricultural before it is a woman. The Babylonian constellation is **MUL.AB.SIN**, "the Furrow" — the line cut by a plough — tied to **Shala**, goddess of grain, shown in Mesopotamian art holding a stalk of barley; Spica was her ear of grain specifically. Greek astronomy kept the image and translated the star's name outright: Ptolemy's *Almagest* calls it *ho Stachys*, "the ear of grain," which Latin then rendered as *spica*. Three languages, one image, naming the same star for something like three thousand years.

Greek myth supplies three different women for the figure, and none of them displaces the wheat. **Demeter**, goddess of the grain harvest, is the most literal fit. **Astraea**, the star-maiden of justice described in Aratus's *Phaenomena* (c. 275 BCE), is a different reading: the last immortal to live among mortals in the Golden Age, she withdraws to the sky as the ages decline from gold to iron — which is also why Virgo stands next to the scales of Libra. Both are **Hellenistic literary catasterism**, a tidy story fitted to an older picture rather than the picture's origin. Medieval Christian tradition added a fourth reading without erasing the others: some illuminated calendars show Virgo as the **Virgin Mary**, helped by the coincidence that Mary's Nativity (8 September) falls while the Sun sits in tropical Virgo.

The sign page, [Virgo](#), covers this religious history in full, including why the maiden's reputation for exacting precision is really the reputation of anyone counting grain sacks before winter.

Deep sky

Virgo is the direction to look if you want the universe to get crowded. Five to twelve degrees west of Vindemiatrix sits the core of the **Virgo Cluster**: something like 1,300 to 2,000 galaxies, most of them dwarfs, centred roughly 54 million light-years away. It's close enough and rich enough to anchor the **Virgo Supercluster** (also called the Local Supercluster) — a structure about 147 million light-years across, containing at least 100 galaxy groups, including the Local Group, and therefore the Milky Way. We are not gravitationally bound to the Virgo Cluster itself; the Local Group sits on the supercluster's outer edge, in a thin filament reaching toward it. And by a 2014 mapping of galaxy motions, the Virgo Supercluster turned out to be only one lobe of a still larger structure, **Laniakea**, centred on the Great Attractor. Zoom out from

this constellation far enough and you're looking at the return address.

The single most consequential object in it is **M87**, a giant elliptical galaxy about 54 million light-years away, holding a black hole of roughly 6.5 billion solar masses at its centre. In April 2019 the Event Horizon Telescope collaboration released the first image ever made of a black hole — not of M87 itself, but of the shadow that black hole casts on the glowing gas swirling around it. That picture, a ring of light bent around an absence, is Virgo's.

The constellation also holds **3C 273**, the first object ever identified as a quasar. It looks like an ordinary 13th-magnitude star, which is exactly what disguised it until Maarten Schmidt, in 1963, recognised its spectrum as a normal set of hydrogen lines shifted so far toward red that the object had to be immensely distant and immensely bright — about 2.4 billion light-years away, and still the optically brightest quasar visible from Earth. It is the active nucleus of a distant elliptical galaxy, outshining the rest of that galaxy more than sixteen times over.

For a small telescope rather than the unaided eye: the **Sombrero Galaxy (M104)**, an edge-on spiral about 28 million light-years out with a dust lane sharp enough to show its shape, sits near Virgo's southern border.

Key dates

Date	Event
c. 1000 BCE (<i>contested</i>)	MUL.APIN lists MUL.AB.SIN, the Furrow, among the stars in the Moon's path.
c. 295 BCE	Timocharis of Alexandria records Spica's position — the measurement Hipparchus will later need.
c. 129 BCE	Hipparchus compares his own measurement of Spica to Timocharis's and discovers precession.
c. 150 CE	Ptolemy catalogues Virgo — 1,022 stars across 48 constellations — in the <i>Almagest</i> , naming Spica <i>Stachys</i> .
1781 CE	Charles Messier catalogues M87, without knowing what it holds.
1930 CE	The IAU adopts Eugène Delporte's boundaries, fixing Virgo at 1,294 square degrees.
1963 CE	Maarten Schmidt identifies 3C 273 as the first known quasar.
10 April 2019	The Event Horizon Telescope releases the first image of a black hole: M87*.

Related

- [Virgo \(the zodiac sign\)](#) — the 30-degree tropical wedge these stars used to sit under, before precession carried it away.
- [Western Zodiac](#) — the full chronology of precession and Hipparchus's measurement.
- [Kanya](#) — the sidereal counterpart, still anchored to these stars.
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