

# New 1.5-billion-pixel image shows Running Chicken Nebula in unprecedented detail

December 21 2023

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The Running Chicken Nebula comprises several clouds, all of which we can see in this vast image from the VLT Survey Telescope (VST), hosted at ESO's Paranal site. This 1.5-billion-pixel image spans an area in the sky of about 25 full

Moons. ([Original image: 3.9 Gb](#)) The clouds shown in wispy pink plumes are full of gas and dust, illuminated by the young and hot stars within them. Credit: ESO/VPHAS+ team. Acknowledgment: CASU

While many holiday traditions involve feasts of turkey, soba noodles, latkes or Pan de Pascua, this year, the European Southern Observatory (ESO) is bringing you a holiday chicken. The so-called Running Chicken Nebula, home to young stars in the making, is revealed in spectacular detail in this 1.5-billion-pixel image captured by the VLT Survey Telescope (VST), hosted at ESO's Paranal site in Chile.

This vast stellar nursery is located in the constellation Centaurus (the Centaur), at about 6,500 light-years from Earth. Young stars within this nebula emit intense radiation that makes the surrounding hydrogen gas glow in shades of pink.

The Running Chicken Nebula actually includes several regions, all of which we can see in this vast image that spans an area in the sky of about 25 full moons. The brightest region within the nebula is called IC 2948, where some people see the chicken's head and others its rear end. The wispy pastel contours are ethereal plumes of gas and dust. Towards the center of the image, marked by the bright, vertical, almost pillar-like structure, is IC 2944. The brightest twinkle in this particular region is Lambda Centauri, a star visible to the [naked eye](#) that is much closer to us than the nebula itself.

There are, however, many [young stars](#) within IC 2948 and IC 2944 themselves—and while they might be bright, they're most certainly not merry. As they spit out vast amounts of radiation, they carve up their environment much like, well, a chicken. Some regions of the nebula, known as Bok globules, can withstand the fierce bombardment from the

[ultraviolet radiation](#) pervading this region. If you zoom in to the image, you might see them: small, dark, and dense pockets of dust and gas dotted across the [nebula](#).

Other regions pictured here include, to the upper right, Gum 39 and 40, and to the lower right, Gum 41. Aside from nebulae, there are countless orange, white and blue stars, like fireworks in the sky. Overall in this image, there are more wonders than can be described—zoom in and pan across, and you'll have a feast for the eyes.

This image is a large mosaic comprising hundreds of separate frames carefully stitched together. The individual images were taken through filters that let through light of different colors, which were then combined into the final result presented here.

The observations were conducted with the wide-field camera OmegaCAM on the VST, a telescope owned by the National Institute for Astrophysics in Italy (INAF) and hosted by ESO at its Paranal site in Chile's Atacama Desert that is ideally suited for mapping the southern sky in [visible light](#). The data that went into making this mosaic were taken as part of the VST Photometric H $\alpha$  Survey of the Southern Galactic Plane and Bulge (VPHAS+), a project aimed at better understanding the life cycle of stars.

Provided by ESO

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