

Image: Hubble catches celestial prawn drifting through the cosmic deep

November 22 2021



Credit: NASA, ESA, and J. Tan (Chalmers University of Technology);
Processing; Gladys Kober (NASA/Catholic University of America)

The Prawn Nebula is a massive stellar nursery located in the constellation Scorpius, about 6,000 light years from Earth. Though the nebula stretches 250 light-years and covers a space four times the size of the full moon, it emits light primarily in wavelengths the human eye cannot detect, making it extremely faint to earthbound viewers. Hubble's gaze, however, shows a small section of the nebula here in both visible and invisible infrared light, capturing dazzling detail of the nebula's structure, including bright areas of glowing gas.

The Prawn Nebula, also known as IC 4628, is an emission nebula, which means its gas has been energized, or ionized, by the radiation of nearby stars. The radiation from these massive stars strips electrons from the nebula's hydrogen atoms. As the energized electrons revert from their higher-energy state to a lower-energy state by recombining with hydrogen nuclei, they emit energy in the form of light, causing the nebula's gas to glow. In this image, red indicates the presence of ionized iron (Fe II) emission.

This Hubble Space Telescope image was captured as part of a survey of massive- and intermediate-size "protostars," or newly forming stars. Astronomers used the infrared sensitivity of Hubble's Wide Field Camera 3 to look for hydrogen ionized by [ultraviolet light](#) ionized by the protostars, jets from the stars, and other features.



The Prawn Nebula lies south of the star Antares in the constellation Scorpius, the Scorpion. Hubble's focused view captures just a small portion of the vast star-forming region. Credit: NASA, ESA, J. Tan (Chalmers University of Technology), and ESO; Processing; Gladys Kober (NASA/Catholic University of America)

Provided by NASA's Goddard Space Flight Center

Citation: Image: Hubble catches celestial prawn drifting through the cosmic deep (2021,

November 22) retrieved 20 June 2024 from <https://phys.org/news/2021-11-image-hubble-celestial-prawn-drifting.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.