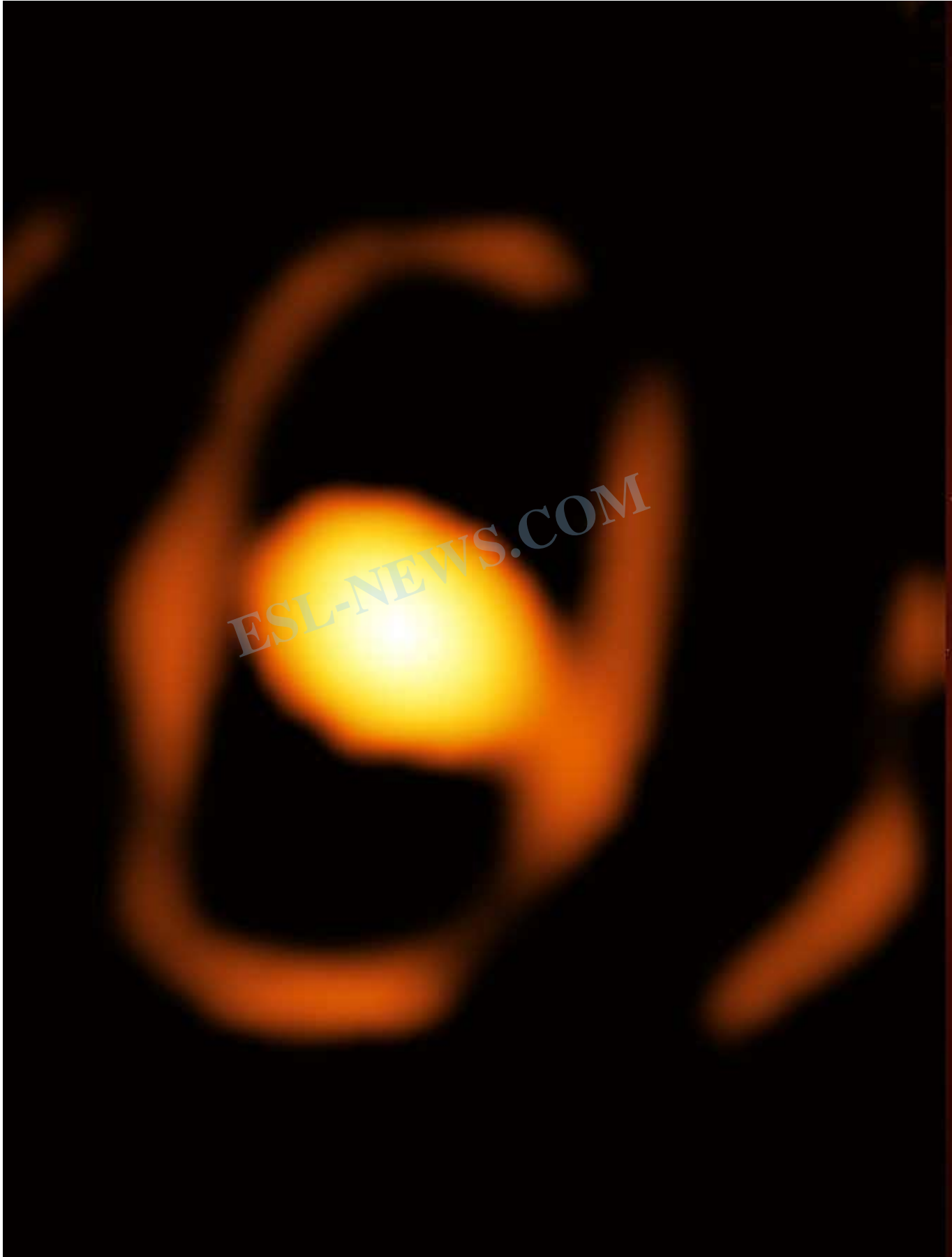




## First-ever photo of star in distant galaxy captured!

### Description

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Left: An image of the star WOH G64 taken with the Very Large Telescope Interferometer in Chile. Right: An artist's impression of the star

ESO/K. Ohnaka et al., L. Calçada

A group of astronomers has captured the first detailed image of a star in a different galaxy, located over 160,000 light years away. This giant star, called WOH G64, is possibly approaching the end of its life, a phase never observed up close before.

Among the largest stars known are red supergiants like WOH G64, which have consumed their hydrogen fuel and now burn a surrounding shell of hydrogen gas. This process causes these stars to expand significantly.

WOH G64, also known as the behemoth star, is between 1540 and 2575 times larger than our sun and exists in the Large Magellanic Cloud, a neighboring galaxy to the Milky Way. Astronomers have been interested in studying this star since its discovery in the 1970s.

A team led by Jacco van Loon from Keele University, UK, utilized the Very Large Telescope Interferometer in Chile to capture a close-up view of WOH G64. This detailed image revealed a luminous ball of gas and dust around the star, hinting at potential upcoming changes in the star's lifecycle.

This remarkable achievement gives scientists new insights into the behavior of massive stars, providing valuable data for future research.

Topics: Astronomy, Stars, Red Supergiants

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## Vocabulary List:

1. **Astronomers** /ə'strɒn.ə.mərz/ (noun): Scientists who study celestial bodies and the universe.
2. **Supergiants** /'su:.pər,dʒaɪ.əntz/ (noun): Extremely large stars that are more luminous than giants.
3. **Lifecycle** /'laɪf,sɑɪ.kəl/ (noun): The series of stages in the life of an organism or object.
4. **Captured** /'kæp.tʃərd/ (verb): Taken or recorded especially in reference to images or observations.
5. **Luminous** /'lu:.mə.nəs/ (adjective): Emitting or reflecting light; shining.
6. **Expansion** /ɪk'spæn.jən/ (noun): The act of becoming larger or more extensive.

## Comprehension Questions



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## Multiple Choice

1. Where is the star WOH G64 located?

- Option: Large Magellanic Cloud
- Option: Milky Way Galaxy
- Option: Andromeda Galaxy
- Option: Sombrero Galaxy

2. What type of star is WOH G64?

- Option: Red Supergiant
- Option: White Dwarf
- Option: Neutron Star
- Option: Black Hole

3. What process causes red supergiants like WOH G64 to expand significantly?

- Option: Burning Hydrogen Gas
- Option: Consuming Helium
- Option: Collapsing Core
- Option: Emitting Radiation

4. Who led the team that captured a close-up view of WOH G64?

- Option: Jacco van Loon
- Option: Keele University
- Option: Chile Observatory
- Option: NASA

5. What did the detailed image of WOH G64 reveal around the star?

- Option: Luminous ball of gas and dust
- Option: Solid planetary rings
- Option: Magnetic field lines
- Option: Dark matter halo

6. In which decade was WOH G64 discovered?

- Option: 1970s
- Option: 1980s
- Option: 1990s
- Option: 2000s



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### True-False

7. WOH G64 is located in the Milky Way Galaxy.
8. Red supergiants like WOH G64 burn a surrounding shell of hydrogen gas.
9. The Very Large Telescope Interferometer is located in the UK.
10. WOH G64 is smaller than our sun.
11. The detailed image of WOH G64 showed potential upcoming changes in the star's lifecycle.
12. Astronomers have never been interested in studying WOH G64.

### Gap-Fill

13. WOH G64 is between \_\_\_\_\_ and \_\_\_\_\_ times larger than our sun.
14. A group of astronomers has captured the first detailed image of a star located over \_\_\_\_\_ light years away.
15. The giant star WOH G64 is possibly approaching the end of its life, a phase never observed up close \_\_\_\_\_.
16. Scientists gained new insights into the behavior of massive stars through the detailed image of WOH G64, providing valuable data for \_\_\_\_\_ research.
17. Astronomers utilized the Very Large Telescope Interferometer in \_\_\_\_\_ to capture a close-up view of WOH G64.
18. WOH G64 exists in the \_\_\_\_\_ Cloud, a neighboring galaxy to the Milky Way.

### Answer

**Multiple Choice:** 1. Large Magellanic Cloud 2. Red Supergiant 3. Burning Hydrogen Gas 4. Jacco van Loon 5. Luminous ball of gas and dust



6. 1970s

**True-False:** 7. False 8. True 9. False 10. False 11. True 12. False

**Gap-Fill:** 13. 1540, 2575 14. 160,000 15. before 16. future 17. Chile 18. Large Magellanic

## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. Who advocates for the protection and preservation of the environment and wildlife?

Option: Accountants

Option: Conservationists

Option: Politicians

Option: Artists

2. Who studies celestial objects and phenomena?

Option: Carpenters

Option: Astronomers

Option: Chefs

Option: Athletes

3. Which term relates to the process or set of rules to be followed in calculations or other problem-solving operations?

Option: Musical

Option: Algorithmic

Option: Biological

Option: Historical

4. Which word describes something emitting or reflecting light?

Option: Opaque

Option: Dull

Option: Luminous

Option: Invisible

5. What term describes the quality of being easily seen through?

Option: Concealment

Option: Obscurity

Option: Transparency

Option: Opacity

6. What type of action is taken to correct or rectify a mistake or a problem?

Option: Destructive



- Option: Corrective
- Option: Acceptive
- Option: Reactive

7. Which term means to increase or improve the quality value or extent of something?

- Option: Diminish
- Option: Reduce
- Option: Enhance
- Option: Deplete

8. Who or what controls or maintains parameters in a particular system or process?

- Option: Disrupter
- Option: Observer
- Option: Regulator
- Option: Assistant

9. What describes the state or quality of requiring immediate action or attention?

- Option: Leisure
- Option: Calmness
- Option: Urgency
- Option: Delay

10. Which term means important in effect or meaning?

- Option: Insignificant
- Option: Minor
- Option: Negligible
- Option: Significant

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

- 11. Cats use their \_\_\_\_\_ for sensing their environment.
- 12. The factory was fined for its excessive \_\_\_\_\_ of pollutants.
- 13. The company launched several new \_\_\_\_\_ to promote employee well-being.
- 14. All \_\_\_\_\_ from the charity event will go toward funding medical research.
- 15. The criminal was \_\_\_\_\_ to ten years in prison for his role in the robbery.
- 16. The investigators uncovered a complex \_\_\_\_\_ to defraud the government.



17. The police made a \_\_\_\_\_ of illegal drugs during the raid.
18. Money \_\_\_\_\_ is a serious financial crime that involves illegal proceeds.
19. The photographer managed to \_\_\_\_\_ the beauty of the landscape in a stunning image.
20. The rapid advancement of \_\_\_\_\_ has transformed how we live and work.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

21. Conservationists work to protect and natural habitats for future generations.
22. Astronomers study massive stars known as that exhibit extreme characteristics.
23. The of a butterfly involves stages from egg to caterpillar to butterfly.
24. The stunning photograph the essence of the city at night.
25. Leaders should be for their decisions and actions.
26. Experts provided valuable for improving the company's financial performance.
27. The discovery of a new species in the forest was a achievement for the research team.
28. Governments should prioritize in their decision-making processes.
29. The board of directors emphasized the of addressing the company's financial challenges.
30. The company implemented actions to address the product quality issues.

**Answer**

**Multiple Choice:** 1. Conservationists 2. Astronomers 3. Algorithmic 4. Luminous 5. Transparency 6. Corrective 7. Enhance 8. Regulator 9. Urgency 10. Significant

**Gap-Fill:** 11. Whiskers 12. Emissions 13. Initiatives 14. Proceeds 15. Sentenced 16. Conspiracy 17. Seizure 18. Laundering 19. Capture 20. Technology

**Matching sentence:** 1. Preserve 2. Supergiants 3. Lifecycle 4. Captured 5. Accountable 6. Recommendations 7. Significant 8. Transparency 9. Urgency 10. Corrective





**CATEGORY**

1. Sci/Tech - LEVEL3

**Date Created**

2024/11/22

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