

How to Survive Without Sex for 50 Million Years? Dry Up

Scientists have finally solved the mystery of how one tiny creature has flourished for up to 50 million years without sex: it dries up.

Bdelloid rotifers, microscopic asexual freshwater invertebrates (animals without spines) are the ultimate escape artists, able to outpace their enemies by drying up and blowing away. For most animals, sex is not only a way of producing the next generation, but a means of keeping enemies at bay. This idea, known as the Red Queen Hypothesis, helps explain why most animals go to great lengths to find mates and have sex.

But rotifers, the only confirmed "ancient asexuals" in the animal kingdom, have survived by abstaining from sex for the last 30 to 50 million years.

In contrast, other creatures that reproduce without sex--such as the nematode worm--are expected to die out after several hundred thousand years.

When faced with the threat of an enemy the rotifers dry up and allow themselves to be blown away by the wind. They come back to life when exposed to freshwater. So while most animals are locked in evolutionary arms races with their foes, bdelloid rotifers escape them altogether simply by being carried on the wind.

Scientists found that the rotifers could live longer without water than their enemies. The longer the infected populations remained dried out, the more likely they were to survive. A new study suggests the bdelloids' ability to take to the wind in the face of danger is one key aspect of their survival, and it's likely not the only one. Other factors--such as the ability to take up and use DNA from their environment--may also play a role.

1. Comprehension exercises (2 points)

1.a. Scientists (0.5 points)

- a. found that invertebrates can live without sex.
- b. found the reason why rotifers have lived without sex.**
- c. found that most animals can live without sex by drying up and blowing away.

1.b. According to the text (0.5 points)

- a. sex is more than a way of producing the next generation.**
- b. following the Red Queen Hypothesis animals find mates and have sex.
- c. most animals face their enemies by drying up and blowing away.

1.c. Some animals reproducing without sex have shorter lives than rotifers.

(Answer 'True' or 'False' AND write the sentence supporting this idea) (0.5 points)

- **TRUE - In contrast, other creatures that reproduce without sex--such as the nematode worm--are expected to die out after several hundred thousand years.**

1.d. If rotifers keep dried out they may live longer.

(Answer 'True' or 'False' AND write the sentence supporting this idea) (0.5 points)

- **TRUE - The longer the infected populations remained dried out, the more likely they were to survive.**

2. Do the following grammar exercises according to the instructions given (2 points)

2.a. Complete the second sentence so that it has a similar meaning to the first one. (0.5 points)

- You should rely on me instead that on Paul.
- You'd **better rely on me than on Paul.**

2.b. Turn the two sentences into a clause containing 'providing' (0.5 points)

- You can use my car. But please bring it back.
- **You can use my car providing you bring it back.**

2.c. Complete the second sentence so that it has a similar meaning to the first one (0.5 points)

- Don't come later than 10.
- She asked **me not to come later than 10.**

2.d. Write the appropriate verb form of the verb in brackets (0.5 points)

- I am used to **getting up** early in the morning.

3. Identify ONLY FOUR words from their definitions (1 point)

- extremely small. (**tiny**)
- someone or something that is likely to cause harm or damage. (**threat**)
- the state of remaining alive. (**survival**)
- away (two words). (**at bay**)
- found the answer to something. (**solved**)
- to move or develop more quickly than someone or something else. (**to outpace**)

4. Write a summary of the text of about 30 – 45 words using your own words (2 points)

5. Write a composition of about 100 – 150 words on ONLY ONE of the following topics (3 points)

5.a. Things animals do to remain alive against dangers.

5.b. How important is money in our lives?