How Venus fly traps developed a liking for meat

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New research sheds light on how carnivorous plants like the Venus fly trap developed a taste for meat. A study from the University of Würzburg in Germany suggests that subtle changes in the genetics of plants led to some becoming carnivorous. These changes led to the development of some of nature's most ingenious species. Carnivorous plants adapted novel and devious ways to entice and snare insects. The Venus fly trap uses clam-like leaves that snap shut when an insect crawls between them. The pitcher plant is shaped like a vase - insects go inside and then cannot crawl up the slippery insides. The sundew plant has long sticky leaves, which roll up after insects get stuck on them.

Researchers in a variety of fields collaborated in the study. They included computational evolutionary biologist Jörg Schultz and plant biologist Rainer Hedrich. They sequenced and compared the genomes of carnivorous plants to non-carnivorous plants. They discovered that meat-eating plants developed from the same common ancestor about 60 million years ago. Dr Schultz said: "We were able to trace the origin of carnivorous genes back to a duplication event that occurred many millions of years ago in the genome of the last common ancestor of the carnivorous species." Dr Rainer* added: "The function of these genes is related to the ability to sense and digest animals and to utilise their nutrients."

* CORRECTION: This should be Dr Hedrich

Sources: *sciencemag.org / eurkalert.org / ibtimes.com*

Writing

Everyone should have carnivorous plants in their house. Discuss.

Chat

Talk about these words from the article.

research / shed / light / taste / meat / genetics / carnivorous / plants / leaves / insect / fields / collaborated / biologist / ancestor / origin / genes / species / function / sense

True / False

a) There is new research on how light affects Venus fly traps. T / F

b) Plants became carnivorous because of changes in their genes. T / F

c) The Venus fly trap catches insects in between its leaves. T / F

d) The sundew plant uses the sun to burn insects. T / F

e) Researchers gathered in fields to collaborate. T / F

f) Scientists compared carnivorous with non-carnivorous plants. T / F

g) The first carnivorous plants emerged 60 million years ago. T / F

h) Genes help the carnivorous plants to digest animals. T / F

Synonym Match

(The words in **bold** are from the news article.)

1.	**sheds**	a.	predecessor
2.	**taste**	b.	inventive
3.	**ingenious**	c.	absorb
4.	**devious**	d.	liking
5.	**stuck**	e.	joined forces
6.	**collaborated**	f.	cunning
7.	**ancestor**	g.	purpose
8.	**origin**	h.	casts
9.	**function**	i.	birth
10.	**digest**	j.	glued

Discussion – Student A

a) What do you know about Venus fly traps?

b) What do you think of carnivorous plants?

c) Would you like carnivorous plants in your home?

d) What are your favourite plants?

e) What plants don't you like?

f) What is your favourite insect?

g) Would you like to have a job researching plants?

h) Would you touch the carnivorous plants?

Phrase Match

1. New research sheds
2. developed a
3. subtle changes
4. some of nature's most
5. roll up after insects
6. Researchers in a variety of
7. plants developed from the same
8. We were able to trace
9. occurred many
10. the ability to sense and

a. get stuck on them
b. millions of years ago
c. taste for meat
d. common ancestor
e. ingenious species
f. the origin
g. light on how
h. digest animals
i. in the genetics
j. fields collaborated

Discussion – Student B

a) What do you think about what you read?
b) What do you think a computational evolutionary biologist does?
c) What is a genome?
d) Why is sequencing a genome useful?
e) What was life on Earth like 60 million years ago?
f) What do you know about your ancestors?
g) Do you think carnivorous plants are useful?
h) What questions would you like to ask the scientists?

Spelling

1. changes in the sctneieg of plants
2. led to some becoming oicrusnrova
3. some of nature's most nieouigsn species
4. adapted novel and evousid ways
5. ntecie and snare insects
6. the eriyplps insides
7. cedaloabtlro in the study
8. nvtoaureyloi biologist
9. They quceensde and compared the genomes
10. the same common rsaentoc
11. sense and egitsd animals
12. utilise their iurnsnett

Role Play

Role A – Venus Fly Traps
You think Venus fly traps are the best plants. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the worst of these (and why): cacti, bamboo or sunflowers.

Role B – Cacti
You think cacti are the best plants. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the worst of these (and why): Venus fly traps, bamboo or sunflowers.

Role C – Bamboo
You think bamboo is the best plant. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the worst of these (and why): cacti, Venus fly traps or sunflowers.

Role D – Sunflowers
You think sunflowers are the best plants. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the worst of these (and why): cacti, bamboo or Venus fly traps.

Speaking – Plants

Rank these with your partner. Put the best plants at the top. Change partners often and share your rankings.
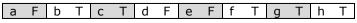
- bamboo
- sunflowers
- orchids
- hemp

- Venus fly traps
- roses
- cacti
- palm tree

Answers – Synonym Match

1. h	2. d	3. b	4. f	5. j
6. e	7. a	8. i	9. g	10. c

Answers – True False

a	F	b	T	c	T	d	F	e	F	f	T	g	T	h	T

Answers to Phrase Match and Spelling are in the text.