



Internal vs. External Fertilization



Jeanine M. Branham  
E2T2 grant year 4  
Enlarged City School District of Middletown  
Middletown High School

Male green casts his body over a clutch while fertilizing it. (Courtesy: David Vetter)

Nov 19-3:51 PM

Do Now (please)

Explain the following terms in your own words (in notebook):

- sexual reproduction
- gametes
- fertilization
- haploid
- diploid
- internal fertilization
- external fertilization

Nov 20-7:39 AM

Edit?

Word	Description
<input type="text"/>	Reproduction involving two parent cells
<input type="text"/>	Sex cells
<input type="text"/>	Depositing the sperm inside the female's reproductive tract
<input type="text"/>	aka monoploid or "n" ; having only 1 set of chromosomes
<input type="text"/>	aka "2n"; having 2 sets of chromosomes

internal fertiliz

haploid

diploid

sexual repro

gametes

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Nov 19-3:35 PM

**Frog 'pirates' find sneaky way to fertilize eggs**

Some male frogs are sexual pirates that sneak up and shed sperm over fertilized eggs, zoologists have found. Studying the behavior, dubbed "clutch piracy," could offer a way to learn about the role of unusual mating systems in vertebrates, the researchers say in Thursday's issue of the journal Nature. Up until now, the common frog, *Rana temporaria*, was thought to have a typical sex life for an amphibian.

A female would choose a male. Then he would grasp her and shed sperm over the clutch of spherical eggs she has just laid. The pair would then go their separate ways, leaving the eggs to develop into tadpoles and eventually the next generation of pond dwellers.

But David Vieites of the University of Vigo in Spain and his colleagues in Germany and The Netherlands observed another approach as they watched frogs at a pond in the Pyrenees mountains of Spain. In the 2001 breeding season, the researchers recorded clutch piracy in 84 per cent of the 119 clutches they observed.

A rogue male would move in after a pair had mated and shed his sperm over the clutch of eggs. Piracy usually happened within seconds after the clutch was laid, although it was observed up to two hours later. Sneaky males achieved 100 per cent paternity after pirating a clutch just one minute after spawning.

And one time, a male acted as a pirate less than three hours after mating the conventional way. Pirates, females both benefit.

The frogs normally breed at night, but in this case, the cool evening temperatures up in the mountains causes the population to mate during the day - prime viewing time for the scientists. The researchers note that only a fraction of the community's females come to the pond each day. The pirate frog comes out the big winner by getting to fertilize some eggs even though he may have lost out during the mating game for scarce females.

Females gain offspring with greater genetic diversity, the researchers said in the Nature article. The team said they're not aware of such post-mating behaviour in animals with external fertilization, though it is common in fish.

Nov 19-3:34 PM

Internal vs. External Fertilization

Edit

Check

Reset

Solve

?

Internal fertil	External fertil

Mammals

Few eggs

Amphibians

Eggs inside body

Fishes

Many eggs

Reptiles

Eggs outside body

Nov 19-3:47 PM

Reflection on Today's Lesson

To be written in complete sentences on looseleaf and turned in.

You must include:

3 things you found out

2 interesting things

1 question you still have

Be sure to incorporate the following points :

\* Why reproduction is important.

\* Descriptions of the methods of internal and external fertilization and their use.

Nov 20-7:42 AM