

Animal Reproduction



Meet Chris P Bacon
Chris P Bacon with cat

REPRODUCTION

- DEFINITION:

The natural process among organisms by which new individuals are generated and the species perpetuated.



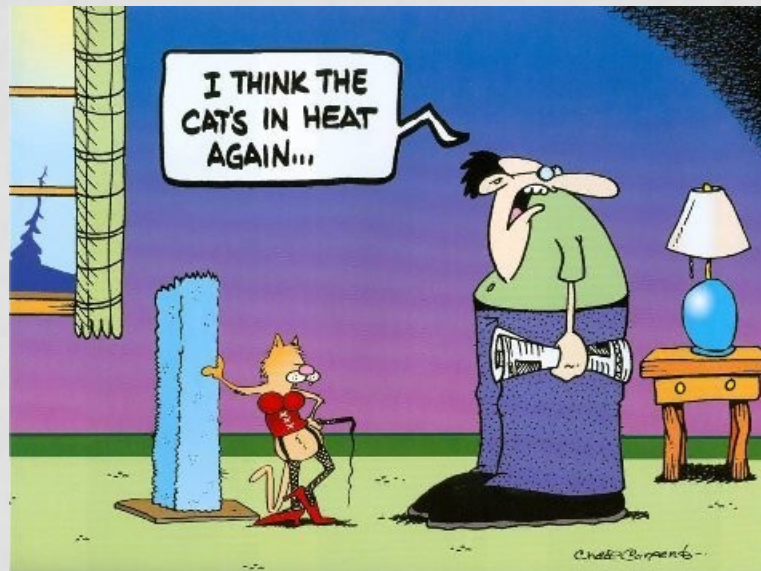
KEY TERMS SO FAR...

- **Conception**
- **Gestation**
- **Parturition**
- **Colostrum**

ESTRUS (ESTROUS)

- DEFINITION:

The periodic state in which most female mammals (excluding humans) are approaching ovulation and most receptive to mating. Also known as “heat”.



DIFFERENT SPECIES CYCLES

- Estrous cycle- *reoccurs as long as the animal is not pregnant*
- Categorized by the frequency of occurrence throughout the year
 - Polyestrous (*poly=many*)
 - Seasonally polyestrous
 - Monoestrous (*mono=one*)
 - Diestrous (*di=two*)

DIFFERENT SPECIES CYCLES

Seasonally Polyestrus- cycles occur only at certain times of the year

- Horses-*Long-day breeders*- go into estrus as days get



- Sheep-*Short-day breeders*- go into estrus as days get shorter



DIFFERENT SPECIES CYCLES

- Horse gestation- 340 days (11 months)
 - *Breeds in the Spring*
 - *Why?*



- Sheep gestation- 145 days (5 months)
 - *Breeds in the Fall*
 - *Why?*



DIFFERENT SPECIES CYCLES

- *Monoestrus/Diestrus*- go into heat only once or twice per year
 - Wolves are monoestrus
 - Dogs are diestrus or sometimes more (domestication)



DIFFERENT SPECIES CYCLES

- *Polyestrus*- go into heat many times per year
 - Cats, Cows and Pigs



CONTROLLING REPRODUCTION

- Cows
 - *Why is it reproduction extremely important with dairy cows?*

No Baby = No Milk = No Money



CONTROLLING REPRODUCTION

- Cows
 - *Different ways to detect heat*
 - *Watching animals*
 - *Painting tails*
 - *Heat detector aids*
 - *Pedometers*
 - *Just let a bull do it*



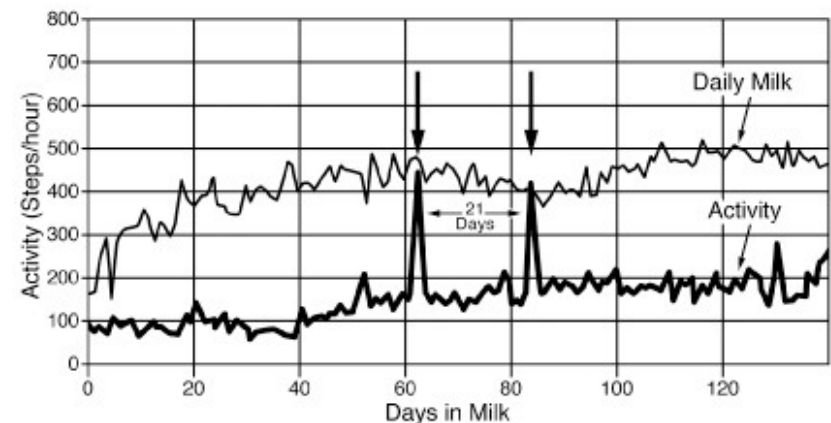
WAYS TO DETECT HEAT

- *Watching animals, paint, color change strips*
- Heat detection



WAYS TO DETECT HEAT

- Pedometers- *'foot'-meters*
- Necklaces measure steps per hour... more activity usually means estrus
- Transmits to a computer graphs data



WAYS TO DETECT HEAT

- Pedometers at UNH Organic Dairy



WAYS TO DETECT HEAT

- *Let the bull do it. He can smell exactly when the cow is ready but...*

Would you want to be in the field with this guy?



CONTROLLING REPRODUCTION

- Which method would you use?
 - Groups are farms. Each uses a different method.
 - What are the pros and cons of each method?
 - Would you use this method? Why or why not?
 - Which method would you prefer? Why?

CONTROLLING REPRODUCTION

- Cost-
 - *Watching-\$48/day*
 - *Paint- \$.50 each application per cow*
 - *Color Break Strips- \$1.55 each*
 - *Pedometer set-up-\$40-\$100 per cow*
 - *Bull-cheaper than 1 cow*
- How much management is needed?
- How good does it work? (Efficacy)

Method	How does it work?	Pros	Cons	Rank

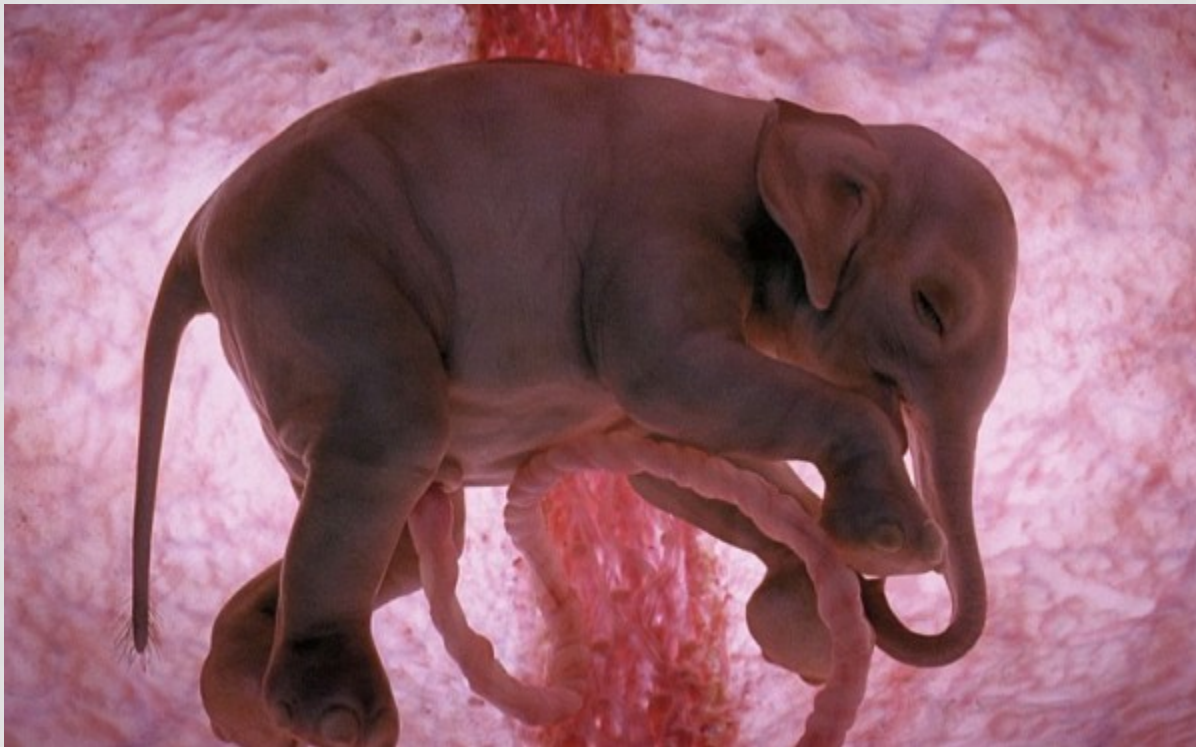
CONTROLLING REPRODUCTION

- You've detected estrus. Now comes the fun part.



PLACENTAL ANIMALS

- We know how placental mammals work, right?



NON- PLACENTAL ANIMALS

- Reptiles
- Birds
- Fish
- Marsupials
- Monotremes

REPTILES

- Have a **CLOACA**.
 - a common orifice where feces, urine, and reproductive functions occur
 - The male fertilizes the eggs inside the female and she lays them to hatch.
 - The yolk inside the egg provides nutrients like a placenta.



Female



Male

Gambelia sila cloacal views

Photos © Patrick Briggs

REPTILES

Young are independent upon hatching. No parental care.



Except Crocodiles

REPTILES

- Some reptiles keep the eggs inside and give birth to live babies.
- Some snakes and lizards do this but they still don't care



BIRDS

Birds have a CLOACA too!

- But they take care of the eggs and the chicks (some



BIRDS

- *Brood Parasites*- female bird lays her eggs in the nest of another species so she doesn't have to take care of it.

A Reed Warbler feeds a baby Cuckoo.

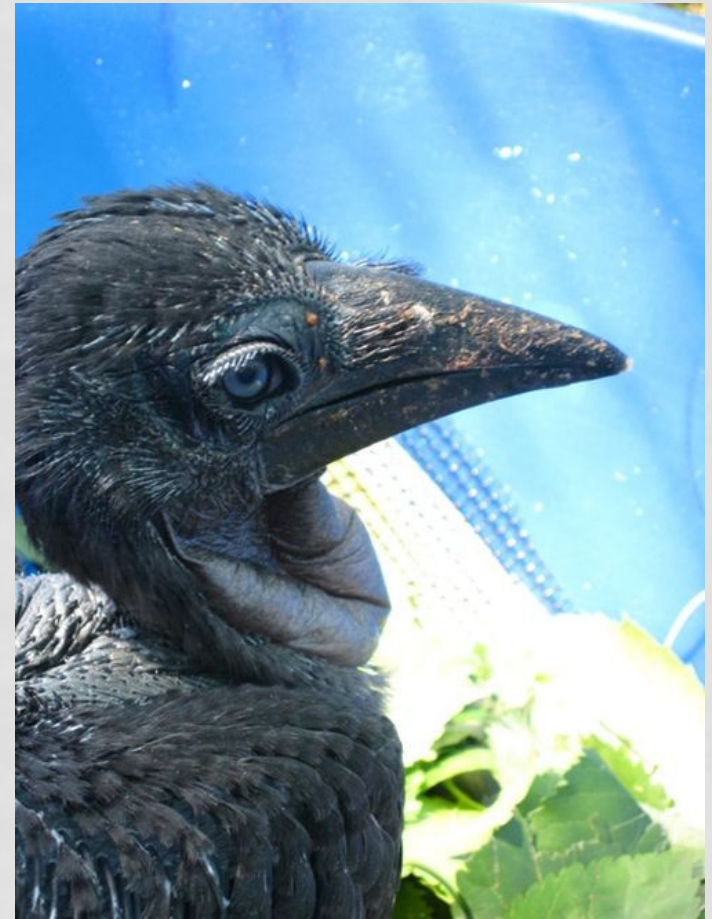


BIRDS

- Do you think birds evolved from reptiles? Why?*



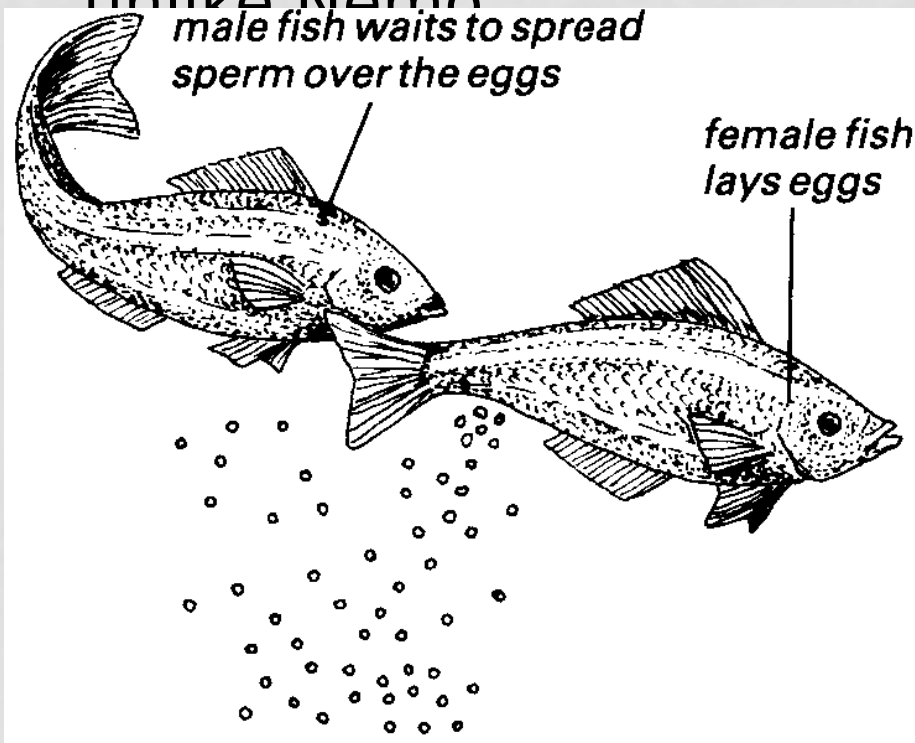
*Endangered Ground Hornbill
Chick*



FISH

- A female fish lays eggs then the male comes by and fertilizes them. This is called **SPAWNING**. They have a yolk sac like birds and reptiles and no parenting...

unlike Nemo



SHARKS

- Sharks don't spawn like other fish. They reproduce sexually like other animals. Then they take one of three options.

- 1. Lay eggs in the water like other fish.**

- When found on shore, these are called*
Mermaid's Purse or Devil's Purse



© Tony Wu | www.tonywublog.com
Small-spotted Catshark egg case

SHARKS



Crested bullhead shark



ARKIVE
www.arkive.org

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SHARKS

- Or they can then...

2. Eggs hatch inside the mother and chill out, eating from their yolk until they are born.



These were found inside a Porbeagle shark...yolk, no shell.



SHARKS

- Or they can then...

3. Their yolk attaches to the mom's uterus and becomes a placenta...taking nutrients from the mom until they are born,



SHARKS ARE DEFINITELY SWAG!

