Animal Reproduction

Meet Chris P Bacon
Chris P Bacon with cat

REPRODUCTION

- DEFINITION:

The natural process among organisms by which ne
w
individuals are generated and the
species perp

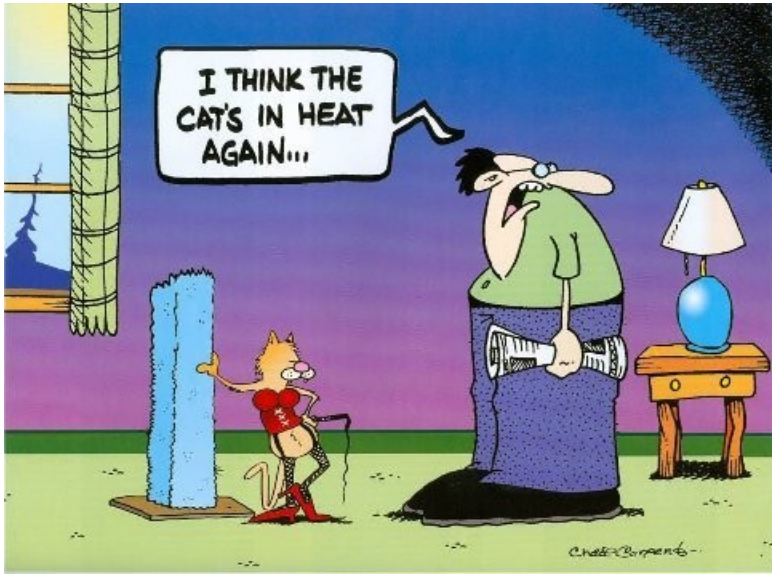
KEY TERMS SO FAR…

- **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 l

- 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 mo
  - *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?*

<u>No Baby = No Milk = No Money</u>

CONTROLLING REPRODUCTION

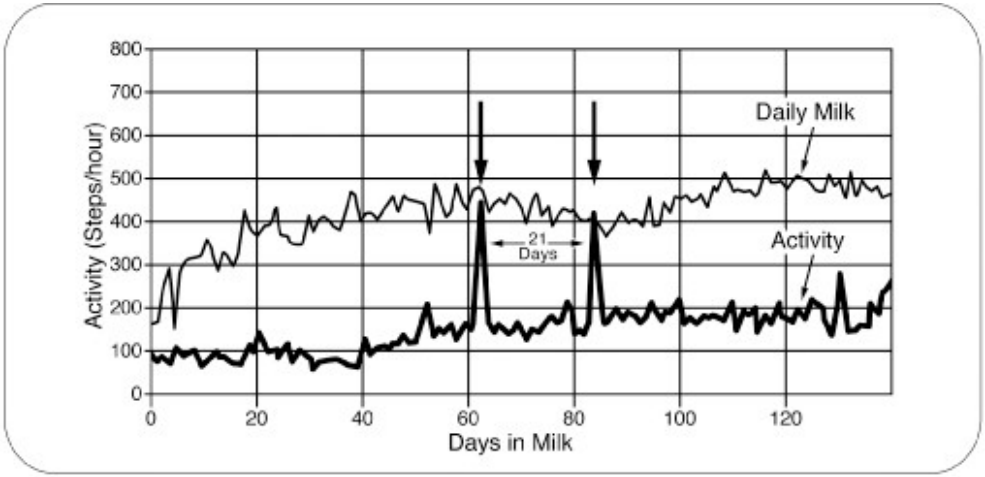
- Cows
  - *Different ways to detect heat*
    - *Watching animals*
    - *Painting tails*
    - *Heat detector aid*
    - *Pedometers*
    - *Just let a bull do i*

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)

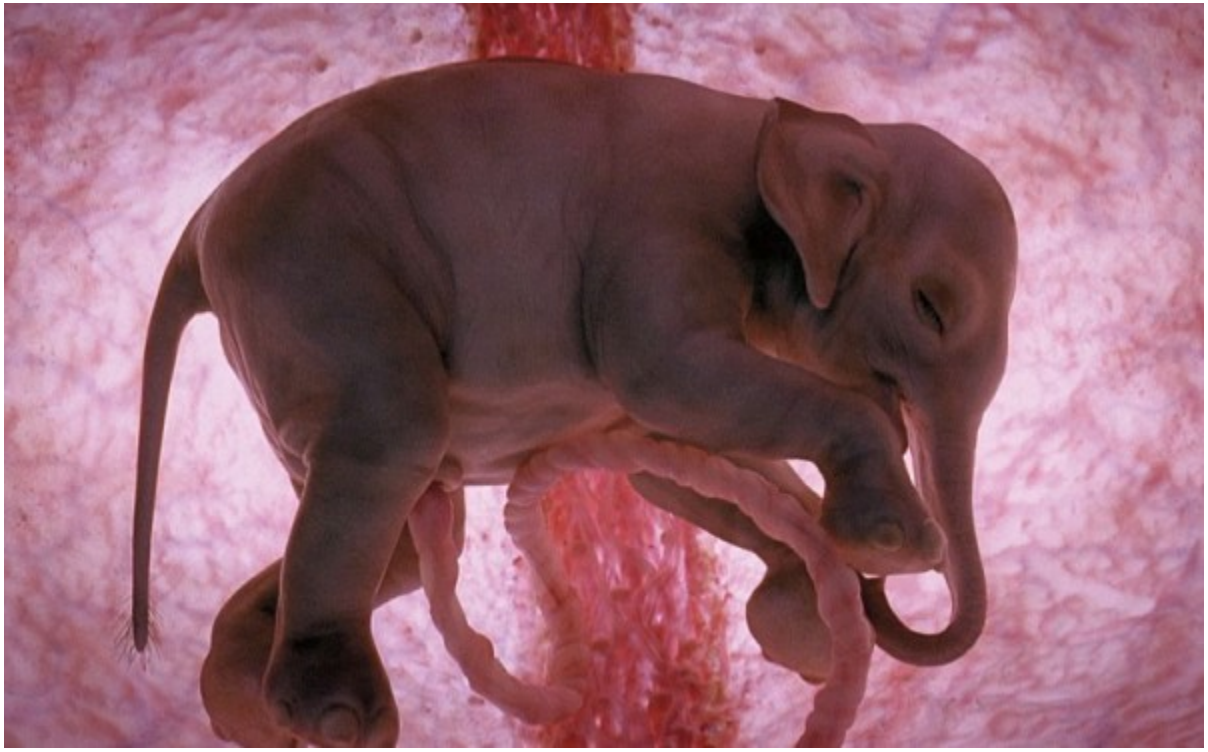
Method	**How does it work?**	**Pros**	**Cons**	**Rank**

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.

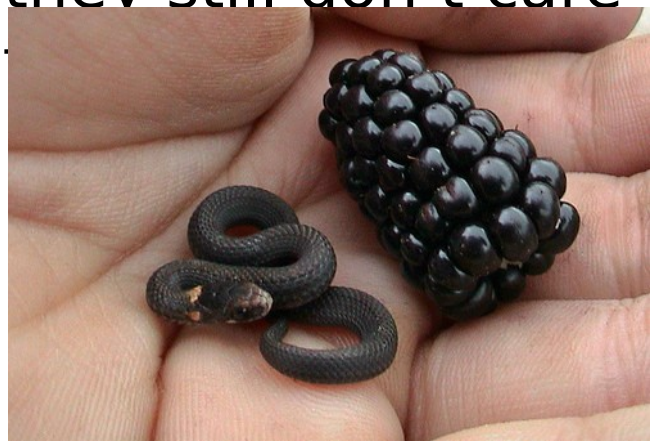
REPTILES

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

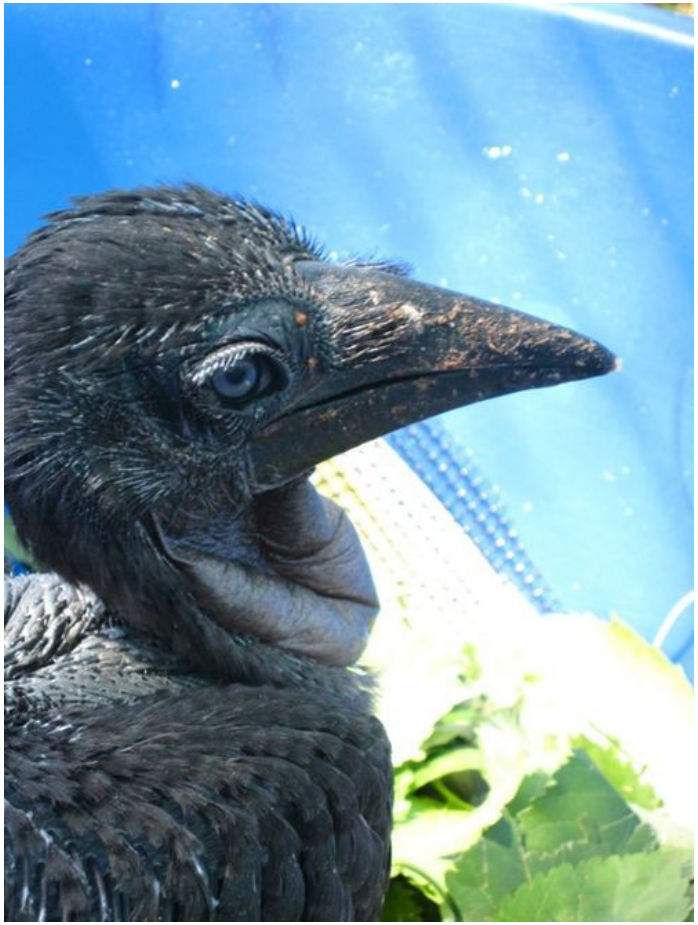
- *Brood Parasites-* female bird lays her eggs in the nest of another species so she doesn't have to take care of it.

A Reed Warbler feeds a baby Cuckoo.

BIRDS

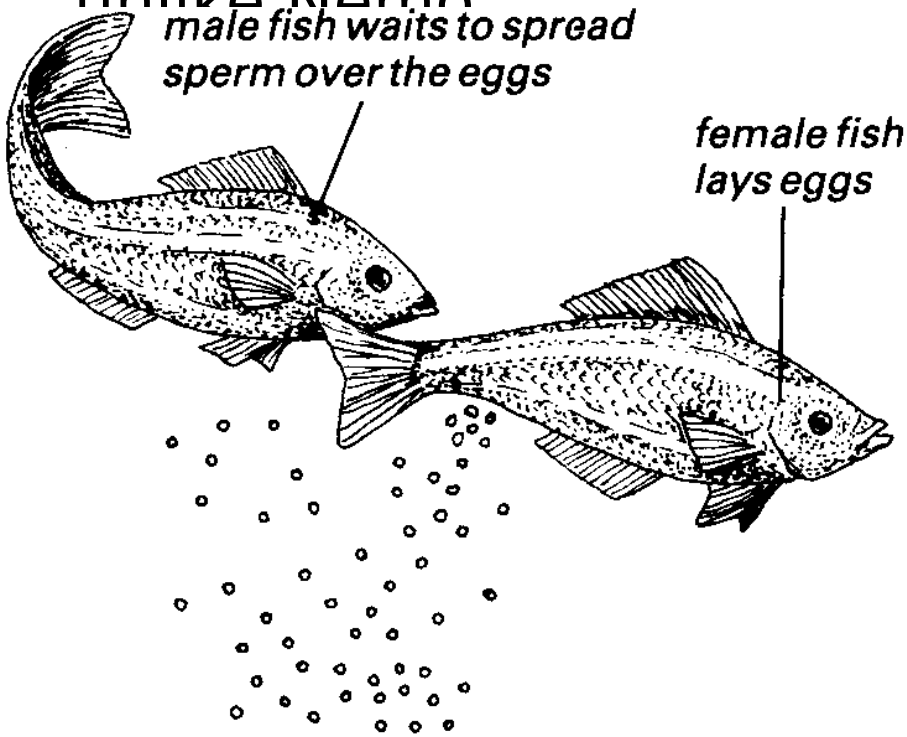
- *Do you think birds evolved from reptiles? Why?*

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 <u>don't</u> 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***

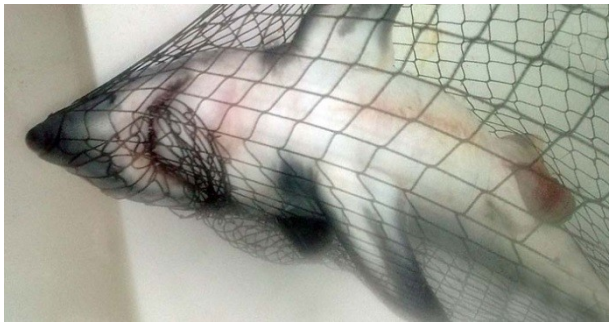
Small-spotted Catshark egg case

SHARKS

Crested bullhead shark

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!