



PHYLOGENETIC DISORDERS OF FEMALE REPRODUCTIVE SYSTEM

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TREE OF LIFE

The tree of life is a metaphor for the relationships between all living organisms. It is a branching diagram that shows the evolutionary relationships between different species. The tree of life is a central concept in biology, and it is used to describe the diversity of life on Earth. The tree of life is a complex and ever-changing structure, and it is a testament to the power of evolution.



PHYLOGENY

- o The evolutionary history of a kind of organism.
- o The evolution of a genetically related group of organisms as distinguished from the development of the individual organism. — called also **phylogenesis**.

PHYLOGENETIC DISORDERS

- o The different phylogenetic age of these genetic disorders could explain the different susceptibility of various primate species to genetic diseases. Our results show that LPL deficiency is the oldest and should affect humans, apes, and monkeys.

Which is an important application of phylogenetic analysis in fighting infectious diseases?

Select one:

- a. Determining when a pathogen first infected the human population
- b. Identifying when a new form of the pathogen emerges in the human population
- c. Tracing the different forms of the pathogen as it spreads through the human population
- d. All of the above
- e. Documenting the animal host the pathogen used to move into the human population

Evolution of Reproduction Among the Vertebrates

Vertebrate sexual reproduction evolved in the ocean before vertebrates colonized land

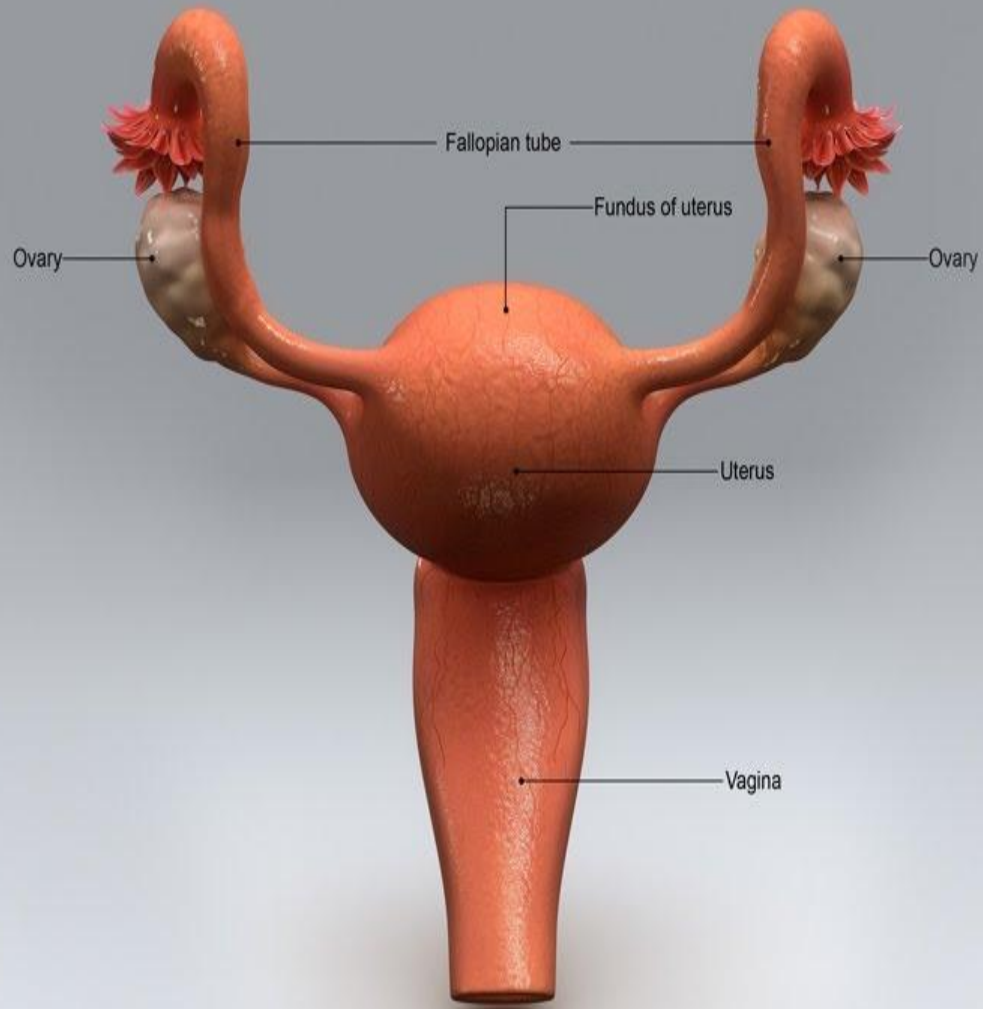
Most marine bony fish use **external fertilization**

Male and female gametes are released into the water where fertilization occurs

Most other vertebrates use **internal fertilization**

Male gametes are introduced into the female reproductive tract

- There are three strategies for internal fertilization
 1. **Oviparity**
 - Fertilized eggs are deposited outside mother's body to complete their development
 2. **Ovoviviparity**
 - Fertilized eggs are retained within the mother to complete their development
 - Young obtain nourishment from egg yolk
 3. **Viviparity**
 - Fertilized eggs are retained within the mother to complete their development
 - Young obtain nourishment from mother's blood



FEMALE REPRODUCTIVE SYSTEM

FEMALE REPRODUCTIVE SYSTEM PHYLOGENY

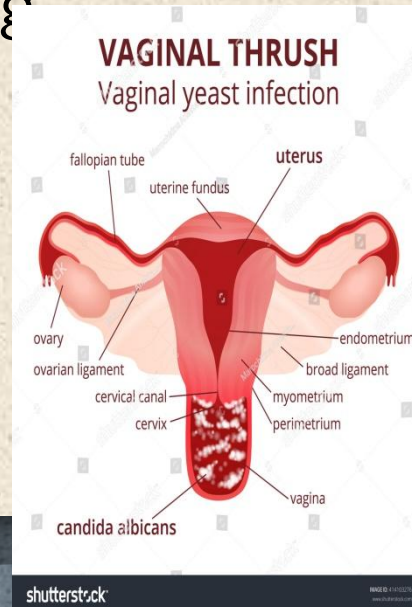
- o The coevolution of female mate preferences and exaggerated male traits is a fundamental prediction of many sexual selection models, but has largely defied testing due to the challenges of quantifying the sensory and cognitive bases of female preferences. We overcome this difficulty by focusing on postcopulatory sexual selection, where readily quantifiable female reproductive tract structures are capable of biasing paternity in favor of preferred sperm morphologies and thus represent a proximate mechanism of female mate choice when ejaculates from multiple males overlap within the tract. Here, we use phylogenetically controlled generalized least squares and logistic regression to test whether the evolution of female reproductive tract design might have driven the evolution of complex, multivariate sperm form in a family of aquatic beetles.

PHYLOGENETIC DISORDERS OF FEMALE REPRODUCTIVE SYSTEM

- o* CANDIDIASIS
- o* CERVICITIS
- o* ECTOPIC PREGNANCY
- o* ENDOMETRIOSIS
- o* FIBROID
- o* LEUKORRHEA
- o* OLIGOMENORRHEA

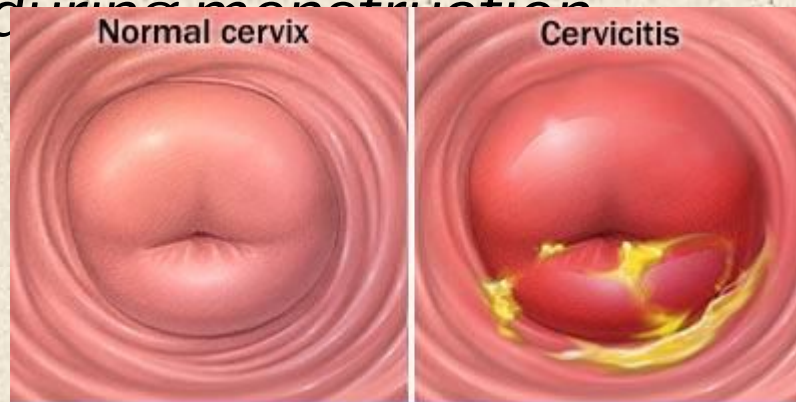
CANDIDIASIS

- o Vaginal fungal infection caused by *Candida albicans*; characterized by a curdy or cheeselike discharge and extreme itching



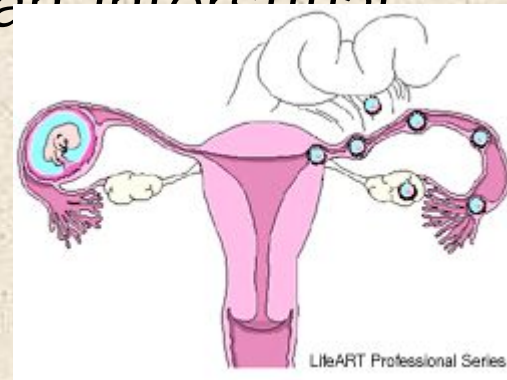
Cervicitis

- Inflammation of the uterine cervix.
- *Cervicitis is usually the result of infection or a sexually transmitted disease. It may also become chronic, because the cervical lining is not renewed each month as is the uterine lining during menstruation.*



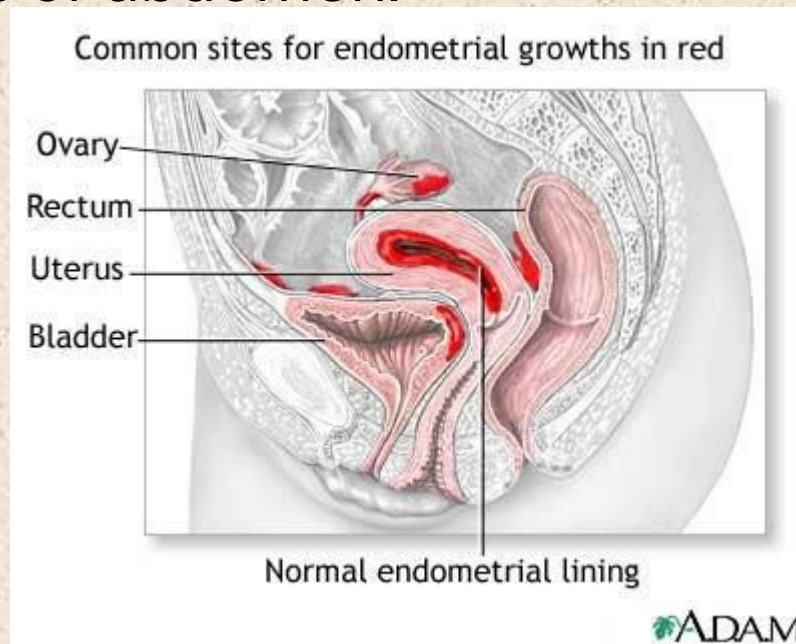
Ectopic pregnancy

- o* Implantation of the fertilized ovum outside of the uterine cavity.
- o* Ectopic pregnancy occurs in approximately 1% of pregnancies, most commonly in the oviducts (tubal pregnancy). Some types of ectopic pregnancy include ovarian, interstitial, and isthmic.



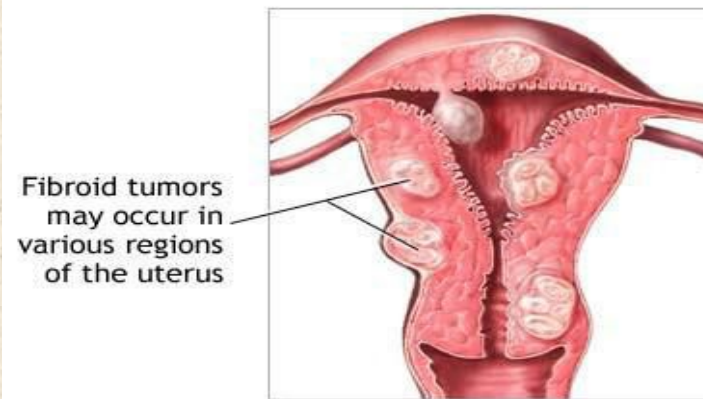
ENDOMETRIOSIS

- o Presence of endometrial tissue outside (ectopic) the uterine cavity, such as the pelvis or abdomen.



Uterine fibroids

- o Benign neoplasm in the uterus that is composed largely of fibrous tissue; also called *leiomyoma*.*
- o Uterine fibroids are the most common tumors in women. If fibroids grow too large and cause symptoms such as pelvic pain or menorrhagia, hysterectomy may be indicated.*



0 LINKS OF VIDEOS RELATED TO TOPIC

- <https://www.youtube.com/watch?v=a8fgm-zEYjQ>
- <https://study.com/academy/lesson/female-reproductive-diseases-disorders.html>
- <https://www.electronicsspecifier.com/industries/medical/understanding-the-diseases-of-the-female-reproductive-tract>



THANKS FOR
YOUR
ATTENTION