

KEY Reproductive Behaviors

1. What is the ultimate goal of reproductive behavior?
 - Pregnancy, successful embryogenesis, and parturition
2. When is Reproductive Behavior gained?

Behavior is programmed prenatally

 - Feminization: development of female-like characteristics (Alphafetoprotein prevents estradiol from crossing blood-brain barrier)
 - Defeminization: reduces female-like behavior (Testosterone crosses blood-brain barrier, which is then converted to estrogen to defeminize the hypothalamus)
3. What are the three stages of male reproductive behavior?
 1. Precopulatory (anything before the act of copulation)
 2. Copulatory (mounting, intromission, and ejaculation)
 3. Postcopulatory (dismount, refractory period, memory)

* Male mating is learned, so a bad experience = lowered libido
4. What is a pheromone?

Volatile substance secreted/released outside of body, perceived by olfactory system/vomeronasal organ

 - Secretions from female smell different depending on stage of estrous cycle

Precopulatory Stage

5. What are the steps of the Precopulatory Stage?
 - Find sexual partner
 - Courtship
 - Sexual arousal
 - Erection
 - Penile protrusion
6. How does the male use his olfactory and vomeronasal system?
 - Recognizes Pheromones
 - Vomeronasal organ (accessory organ): Fluid-borne chemicals enter oral cavity, flehmen response allows for examination using vomeronasal organ
7. What are the Visual Signals?

Short range signal

 - Unique Sexual Posture
 - Observing mating behavior from other individuals of the same species

8. What are the Auditory Signals?

Long range signal

- Change in pitch
- Increased bellowing or grunts during estrus

9. What is Tactile Stimulation?

Final step to achieve copulation - physically touching and coming into contact

- Influences male (ejaculation) and female (lordosis)

10. What completes the Precopulatory Phase?

Penile erection and protrusion

- Increased arterial blood flow
- Contraction of ischiocavernous muscles compresses penile veins (blood is trapped)
- Fibroelastic penis elongates through relaxation of retractor penis muscle

Copulatory Stage

11. What are the steps of the Copulatory Stage?

- Mounting
- Intromission
- Ejaculation

12. What is Intromission?

- Male positions himself to enter vagina
- Sensory nerve stimulation of glans penis will lead to ejaculation

13. What species are short, intermediate, and sustained copulators?

- Short: bull, ram, buck (stimulated by warmth, seconds after intromission)
- Intermediate: stallion (stimulated by pressure, 30 sec to 1 min)
- Sustained: boar (stimulated by pressure, up to 30 mins)

Postcopulatory Stage

14. What are the steps of the Postcopulatory Stage?

- Dismount
- Refractory period
- Memory

15. What is the Refractory Period?

Length of time before a 2nd ejaculation can occur

16. What are the three things needed for female reproductive behavior?

- Attractivity (posture, vocalization, pheromones)
- Proceptivity (female-female mounting)
- Receptivity (lordosis)

17. What is the difference in timing of reproductive behavior between males and females?

- Female sexual activity is limited to estrus
- Males are capable of initiating sexual reproductive behavior any time after puberty
- *Initiation of courtship-specific behavior is generally under the influence of the female

18. How can we manipulate male sexual behavior?

- Introduce new females
- Change location
- Change location and introduce new females

19. What are some collection techniques we use for AI?

- Artificial vagina
- Electroejaculation