Animals, Habitats, and Human Health Facts

Animals & Habitats · Answer Key · 12 Questions

1. Which animal, native to tropical rainforests, has a venom that has been studied for its potential to alleviate pain in humans?

A) Giant Panda
B) Platypus
C) Poison Dart Frog
D) Arctic Fox

2. The compound found in the venom of a certain desert scorpion, native to North Africa, is being researched for its ability to target and kill cancer cells in humans. Which scorpion is this?

A) Emperor Scorpion
B) Arizona Bark Scorpion
C) Deathstalker Scorpion
D) Indian Red Scorpion

3. Certain microorganisms found in the gut of animals living in specific environments, like the deep sea, are being investigated for their potential to produce novel antibiotics to combat human drug resistance. Which of these environments is most relevant?

A) Arctic Tundra
B) Tropical Savanna
C) Deep-Sea Hydrothermal Vents
D) Great Plains Grasslands

4. Leeches, historically used in medicine and found in freshwater habitats, secrete an anticoagulant enzyme called hirudin. This enzyme is now synthesized and used clinically to prevent blood clots in humans. What is the primary benefit of hirudin?

A) Boosting the immune system
B) Reducing inflammation
C) Preventing thrombosis
D) Improving digestion

5. The study of diseases that can be transmitted from animals to humans, often influenced by animal habitats and human encroachment, is known as:

A) Epidemiology
B) Parasitology
C) Zoonosis
D) Botany

6. Certain marine sponges, found in coral reef habitats, produce compounds that have shown antiviral and anti-cancer properties in human medical research. What is a common characteristic of these sponges?

A) They are highly mobile.
B) They filter large volumes of water.
C) They have a rigid skeletal structure.
D) They rely on photosynthesis.

7. The saliva of the Komodo dragon, an inhabitant of Indonesian islands, contains a complex mix of bacteria and toxins. While historically thought to be the primary cause of infection, recent research suggests a significant component that can lower blood pressure in humans is also present. What is this component?

A) A specific enzyme
B) A type of venom
C) A neurotoxin
D) A growth hormone

8. The study of how animal populations and their interactions within an ecosystem can impact the spread of infectious diseases affecting humans is a key aspect of:

A) Genomics
B) Conservation Biology
C) Ecology and Public Health
D) Paleontology

9. Some deep-sea bacteria, thriving in extreme pressure and temperature habitats, produce enzymes that are highly stable and can function under harsh conditions. These enzymes are being explored for use in human biotechnological applications, such as diagnostics. What property makes these enzymes valuable?

A) Their rapid decomposition rate
B) Their ability to function at high temperatures
C) Their requirement for high oxygen levels
D) Their sensitivity to light

10. The skin secretions of certain amphibians, living in humid forest habitats, contain antimicrobial peptides that are being investigated for their potential to treat human bacterial infections, including those resistant to antibiotics. What is the primary function of these peptides?

A) Attracting mates
B) Camouflaging the amphibian
C) Killing or inhibiting bacteria
D) Regulating body temperature

11. The unique immune system of the horseshoe crab, found in coastal marine habitats, produces a substance called Limulus Amebocyte Lysate (LAL). LAL is crucial for detecting bacterial endotoxins in human pharmaceuticals and medical devices, preventing potentially fatal infections. What does LAL detect?

A) Viral particles
B) Fungal spores
C) Bacterial endotoxins
D) Parasitic eggs

12. Research into the unique adaptations of animals living in high-altitude habitats, such as specialized respiratory systems in mountain goats, can provide insights into improving human oxygen transport and treating respiratory illnesses. What is a key adaptation observed in these animals?

A) Reduced red blood cell count
B) Increased hemoglobin efficiency
C) Lower metabolic rate
D) Thicker fur for insulation