

NPTEL 2024 Basic Course in Ornithology

Week 10 Assignment

- 1) The biogeographic realms of the world were revised with the addition of genetic data by Holt et.al. in 2013. Sri Lanka now largely falls in which biogeographic realm?
 - a. Indian
 - b. Saharo-Arabian
 - c. Oriental**
 - d. Afrotropical

- 2) Which among the regions provided below is listed by Rodgers and Panwar 1988 as being among the various biogeographic regions of India?
 - a. Aravallis
 - b. Eastern Ghats
 - c. Satpuras
 - d. Western Ghats**

- 3) When geographic information is integrated while examining genetic characteristics, such research is called
 - a. Phylogeography**
 - b. Geographic genetics
 - c. Geogenetics
 - d. Biogeography

- 4) Which of the following is not an example of a biogeographic barrier?
 - a. Mountains
 - b. Climate
 - c. Rivers
 - d. Anthropogenic climate change**

- 5) Madagascan taxa can be connected with Indian taxa based on plate tectonics. Such a pattern using genetic data was revealed for which of these taxa?
 - a. Common Woodshrikes (related to Vangas)
 - b. Microhylid frogs**
 - c. Sunbirds
 - d. All of the above

- 6) Species richness of Babblers (according to the study by Srinivasan et al 2016) follows the pattern -
 - a. Decreases from East to West Himalayas

- b. Is nested from East to West Himalayas
- c. All of the above**
- d. None of the above

7) The relationship between species richness and island area follows a/an:

- (A) exponential relationship
- (B) Michaelis-Menten function
- (C) quadratic function
- (D) power relationship**

8) According to MacArthur and Wilson's Equilibrium Theory of Island Biogeography, smaller islands have fewer species than larger islands because larger islands have:

- (A) lower extinction rates.**
- (B) higher immigration rates.
- (C) lower competition.
- (D) higher facilitation.

9) According to the stress-dominance hypothesis:

- a) The relative strength of environmental filtering increases towards the more stressful environments
- b) The relative strength of interspecific competition decreases towards the more stressful environments
- c) Functional traits are more 'clustered' towards the more stressful environments
- d) All of the above**

10) Along an elevational gradient, bird communities experience more 'stress' at high elevations as compared to lower elevations due to:

- a) Cold temperatures
- b) Less resources (food)
- c) Low air density
- d) All of the above**

11) The following are examples of functional traits in birds:

- a) Morphological traits
- b) Physiological traits
- c) Behavioral traits
- d) All of the above**

12) Under strong environmental filtering, the functional traits of co-occurring species should

exhibit:

- a) Overdispersion
- b) Clustering**
- c) Randomness
- d) All of the above

13) Patterns of phylogenetic clustering/overdispersion will mimic functional clustering/overdispersion when:

- a) Traits used for calculating phylogenetic diversity are conserved across closely related lineages**
- b) Traits used for calculating phylogenetic diversity are conserved only in distant lineages
- c) Traits used for calculating phylogenetic diversity are random with respect to lineage relatedness
- d) Phylogenetic and functional diversity never mimic each other

14) Tropical regions have more species than temperate regions because:

- a) Tropical areas are highly seasonal
- b) Tropics have lower areas compared to temperate regions
- c) Temperate regions were ice-age refugia
- d) There is higher energy/solar radiation in the tropics**

15) Which of the following countries has the highest number of rare species?

- a) Saudi Arabia
- b) Australia
- c) Peru**
- d) Russia

16) Rare species are vulnerable to both environmental and demographic stochasticity. This aspect of rarity is called:

- a) Double vulnerability
- b) Double threat
- c) Double jeopardy**
- d) Double trouble

17) The relationship between the log of area and the log of species richness follows:

- a) Linear relationship**
- b) Power law
- c) Exponential function
- d) Logistic growth

18) Bird species richness is correlated with:

- a) Plant species richness
- b) Net primary productivity
- c) Latitude
- d) **All of the above**

19) Predation pressure on caterpillars is highest in:

- a) **Low elevation tropics**
- b) High elevation tropics
- c) Low elevation temperate areas
- d) High elevation temperate areas

20) High species richness at intermediate elevations can be explained by:

- (a) Latitudinal diversity gradient
- (b) Island biogeography effect
- (c) **Mid-domain effect**
- (d) Refugium effect