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B.Sc HONS Part-III Paper-VII

Topic:- Describe the Insular fauna of Continental
Islands and Oceanic Islands.

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Ans. The animal life on Islands is of special interest to the student of zoogeography. As a rule the genera and species are much fewer in numbers than is the case in continental areas, but at the same time these are often remarkably peculiar and well defined. Before a detailed study of any particular fauna is made, careful consideration must be given to the nature, both geological and physical of the island itself. Following Wallace, all islands are divided in two categories.

Continental Island- When the Island is lying near the continental masses. Such an Island has at one time or other been connected with the adjacent continent having been separated by the submergence of the intervening area. Hence its fauna is more or less similar to that of the neighbouring mainland and always includes a certain proportion of mammals and Amphibia. Great Britain, Borneo, Java, Phillipins, Japan and Formosa are the continental Islands. A certain number of continental islands are separated by water of considerable depth amounting even to more than a thousand fathoms. Such are regarded as of more ancient origin than the rest.

The British Isles- The British Isles consist of two main Islands off the coast of Europe-Britain about 89,00 sq. miles and Ireland about 32,000 sq. miles. British Isles exhibit a curious paucity of species among Mammals, Reptiles and Amphibians.

Of terrestrial mammals, Britain only possesses some 40 species. Only one is peculiar, namely the Orkney vole (*Microtus oreadensis*), but there are in addition several racial forms confined to these Islands. Britain has only 13 and Ireland only 4 species of reptiles and amphibians. Only a single species of Bird is peculiar to the British Isles, namely the Red Grouse, but here again a number of species exhibit racial peculiarities. Among the Passeridae, Subspecies *britannicus* (*cole lit*) *Acedula caudata*, Subspecies *rosea* (Long tailed lit) and *Troglodytes parrulus* of fresh water fishes several forms of the genus *Salmo* (Trout and Salmon) are peculiar to British and Irish lakes, while the Lepidoptera (Beetles). 71 species and varieties, which are supposed to be confined to the British Islands. Finally the list of land and fresh water Mollusca show 122 peculiar species and varieties.

Borneo and Java: Out of 175 species of terrestrial Mammals occurring in Borneo, 55 are peculiar and 10 other present varieties confined to the Island. Of these 7 are Monkeys, 10 Bats, 15 Insectivores, 4 Carnivores, 20 Rodents and 1 ungulate (a pig). Of Birds, the same island possesses 490 species, and of these no fewer than 126 are peculiar. In Java, on the other hand, only 90 species

of mammals are found, only some half dozen being peculiar, while of Birds there are only 300 species of which 45 are peculiar. A number of typically Malayan animals are found in Borneo, but not in Java and among these may be mentioned the elephant, Malayan Bear and Tapir.

There is a similar deficiency as regards the Javan Birds, certain genera of forms so conspicuous as jays, woodpeckers, Hornbills are of a Malayan type, and present in other East India islands: As Wallace says: From these facts, it is impossible to doubt that Java has had a history of its own, quite distinct from that of the other portions of the "Malayan area".

The Philippine Islands— In these very interesting Islands there are 44 species of mammals (excluding cats), and of these no fewer than 33 are peculiar of the 22 Rodents found in the islands and peculiar to them, 10 belong to quite peculiar genera. The other mammals confined to the Philippines are a Galeopithecus (Flying Lemur), a Tupaia (Tree shrew) and three other Insectivores: a Tringulus and 4 species of Cervidae (Deer) and lastly *Bufellus mindorensis*, small Buffalos of land Birds there are 542 species, with no less than 3/2 peculiar.

Japan— Although occupying a very similar position with regard to adjacent continent of Asia to that occupied by the British Isles in relation to Europe, the Japanese Islands possess a far larger number of peculiar forms. Thus of the 42 species of mammals on fewer than 27 are peculiar, including a Monkey, two Bats, six Insectivores, six Carnivores, nine Rodents, two Deer and a pig. The Erinaceidae (Hedgehogs) represented by a single species in Britain are absent but the Ursidae (Bears) Bovidae (Oxen) and Suidae (Pigs) are all found in Japan. About 200 species of Birds occur, 17 of which are peculiar. These are principally allied to North Chinese and Siberian forms, but three are of a tropical character, and include a variety of Fruit Pigeon.

Formosa— In this Island, whose southern portion enters the tropics, 36 species of mammals and 128 species of land Birds are recorded and of these 10 and 35 are peculiar respectively. The proportion of over a quarter of peculiar land Birds is a very high one, considering proximity of the Island to the mainland. Nearly half the peculiar species of Birds are most closely allied to forms occurring in the Himalayas, Southern India, the Malaya Islands and Japan but absent from the nearest portion of the mainland while there are eight species common to Formosa and India or the Malaya Islands, but not found in China. All these facts appear to indicate that a great change must have taken place in the distribution of the Asiatic fauna since the island now under consideration was separated from the adjacent continent.

Celebes— A good deal of difference of opinion has prevailed and still prevails, regarding the position which this Island should occupy in the schemes

of regions and sub regions mapped out for distributional purposes Originally it formed part of the Australian region of P.L. Sclator and Wallace, and by the latter author it was placed in the Austro Malayan sub region. Sub-sequently, however, it was transferred by P.L. Sclator to the oriental Region where it formed a separate sub region.

Oceanic Islands

An oceanic Island is one which has never been attached to any continent, but has been formed independently in mid ocean either by volcanic agency or through the building up of coral reefs or again by a combination of both methods. The fauna of such Islands is usually characterised by an entire absence of terrestrial mammals and Amphibians, but includes a fair proportion of very peculiar Birds and Insect and often of plover (*Aegialitis sanctae-helenae*). The beetles number 203 species of which 74 have probably been introduced. Strangely enough about 2/3 of the remainder are Rhynchephora (weevils) a proportion approached in on other part of the globe.

The Azores- In this group of Islands there are no indigenous terrestrial Mammals and Amphibians are also absent. Birds are represented by 53 species 31 of which are either aquatic or waders and chiefly occur as migrants. Of the remaining 22 species, which are land Birds, four are merely stragglers. There are thus 18 permanent resident 15 of which are natives of Europe and North Africa. A single species, the Azorean Bull finch (*Pyrrhula murina*) is peculiar. In the great class of insects the Lepidoptera (Butterflies and moths) and Hymenoptera (Ants, Bees, wasps) are separately represented, the species being almost all European ones. Of coleopter (Beetles) these are 212 species of which 175 are European of these 101 are probably introduced and 74 indigenous. The peculiar species are 14. There are 69 species of terrestrial mollusca of which 37 are European and 32 are peculiar.

Bermuda- No terrestrial mammals occur in the Islands but four species of bat occur rarely. Frogs and snakes are absent, but there is one lizard, which is a peculiar species of Birds, 180 species are recorded; 85 of which are land birds. Of these, about a quarter are regular visitors, while only 11 are permanent residents. Eight of the latter and land and other three aquatic birds and all are common the North American mainland a few reptiles. Many well known islands may be include here, such as the sandwich and Glapagos Islands, St. Helena, the Azores, Bermuka and Kerguelen.

The Sandwich Islands- These Islands are so extensive and possess a fauna so peculiar that hydekker regards them as forming a distinct zoogeographical Region and W. L. Scalater as a subregion of the Australian Region. Indigenous mammals are entirely absent. The birds are numerous and present many peculiarities, 58 species of aquatic and wading birds are recorded of which

six are peculiar while four birds of prey have occurred in these Islands. The Passeriformes or perching Birds are represented by 55 species, 41 of Which belong to a peculiar family, the Drepanidae while parrots, pigeons and kingfishers, all of which are represented in the larger pacific Island, are entirely wanting. Two lizards complete the list of vertebrates.

The Galapagos Islands— There are indigenous Mammals and no Amphibians. Reptiles, however, are abundant and the gigantic land tortoises found in these Islands are both peculiar and of remarkable interest. Five species of lizards occur one of the family Geckonidae and four of Iguanidae while there are also two species of snakes.

The, Birds are similarly interesting in as much as 72 species out of a total 100 occurring in the Islands, are peculiar 66 out of this number are land birds and of these only 3 are found elsewhere.

Of beetles about 40 species are recorded which are mostly peculiar.

St. Helena— St. Helena is small volcanic island about 10 miles long and eight miles wide. It lies about 1,000 miles of Africa in south Atlantic.

In this island there are no indigenous Mammals, and Birds, Reptiles or fresh water fishes. One wader is present namely a peculiar species.

Q. 13. Describe the age span, elliptical