

XXVII.—*General Remarks on the Avifauna of Madagascar and the Mascarene Islands.* By Dr. G. HARTLAUB*.

FIVE-AND-THIRTY years ago, Isidore Geoffroy St.-Hilaire remarked that, if one had to classify the Island of Madagascar exclusively on zoological considerations, and without reference to its geographical situation, it could be shown to be neither Asiatic nor African, but quite different from either, and almost a fourth continent. And this fourth continent could be further proved to be, as regards its fauna, much more different from Africa, which lies so near to it, than from India, which is so far away. With these words, the correctness and pregnancy of which later investigations tend to bring into their full light, the French naturalist first stated the interesting problem for the solution of which an hypothesis based on scientific knowledge has recently been propounded; for this fourth continent of Isidore Geoffroy is Sclater's "LEMURIA"—that sunken land which, containing parts of Africa, must have extended far eastwards over Southern India and Ceylon, and the highest points of which we recognize in the volcanic peaks of Bourbon and Mauritius, and in the central range of Madagascar itself—the last resorts of the mostly extinct Lemurine race which formerly peopled it. "The Farquhar Islands and the Seychelles in the north and the Coral-reef of Rodriguez and Calvados seem," says a recent writer, "to unite the ranges of its granitic hills with the Laccadives and Maldives and so on, with those mighty manifestations of Nature which the Neilgherries and adjoining ranges present to us in Southern India." When Wallace, whose utterances on this subject every one must read with the greatest interest, puts forward a former junction of Mada-

* Abstracted from the introduction to Dr. Hartlaub's new work 'Die Vögel Madagascars und der benachbarten Inselgruppen,' announced in our last issue (*antea*, p. 258). These remarks give a summary of Dr. Hartlaub's conclusions as to the general aspect of the "Lemurian" Avifauna, which according to this excellent and most useful handbook, is now known to contain 284 species. Of the 220 species found in Madagascar itself, 104 are peculiar, and of these 30 so abnormal that they require to be referred to peculiar genera.

gascair with Africa as beyond doubt—a junction which, however, must have terminated before the inroad into Africa of the more highly organized Mammals—every one will allow this opinion to be at all events well founded. But when he proceeds to state that the fauna of Madagascar is manifestly of African origin his assurances are based upon very slender grounds. In truth the individuality of the fauna of Madagascar is so unique that even that of New Zealand can hardly be compared with it. Wallace's attempted parallel between Madagascar and Africa, and the Antilles and South America, is, in our eyes, sufficiently disproven by the occurrence in the Antilles of Trochilidæ, one of the most characteristic forms of South America. But in Madagascar not a single one of the genera most characteristic of Africa occurs. This originality of the fauna is much too pronounced to allow Madagascar to be treated only as a "Subregion" or as an "aberrant part" of the Æthiopian Region.

As already remarked, Isidore Geoffroy St.-Hilaire rightly put forward the remarkable relations of the fauna of the Madagascarian Subregion to India, at a time when it was very imperfectly known. To our astonishment we meet with, in both its subdivisions (Madagascar and the Mascarenes), the truly Indian genus *Hypsipetes*. Not less strange is the appearance of the genus *Copsychus* in Madagascar and the Seychelles, of the Indian type of *Dicrurus* (as represented by *D. waldeni*) on the Comoros, and of *Plotus melanogaster* instead of its African representative in Madagascar. Two birds of this island, *Ninox lugubris* and a *Cisticola*, are hardly separable from Indian species. Two others, *Scops rutilus* and *Anas bernieri*, are so like *Scops menadensis* and *Anas gibberifrons* that they are not easily distinguishable. The Indian *Charadrius geoffroyi* is no rarity in Madagascar. *Dromas* and *Gygis*, two characteristic forms of this subregion, one of Indian, the other of Oceanic origin, estrange it from Africa. A typical *Ploceus* of Madagascar (*P. sakalava*) belongs to the Indian *philippinus* group. The peculiar *Hartlaubia* is nearer to the Upper-Indian *Psaroglossa* than to any African form. The Indo-Australian group of the Artamidæ surprises us in

Madagascar with four modified representatives. *Mesites*, one of the most remarkable and scarcest birds of Madagascar, can only be naturally placed near the Indian *Eupetes*. Lastly, the occurrence of the Polynesian Rail (*Rallus pectoralis*) on Mauritius deserves special notice, although but a single example of it has been yet obtained.

In contrast to these important facts the points of connexion of the avifauna with Africa fall far into the background. The only species of the order Passeres certainly known to be common to Africa and the Lemurian Region is *Corvus scapulatus*. Besides this we can only reckon about 6 or 7 Birds of Prey, 3 Pigeons, 15 Waders, and 1 Palmiped as of African origin.

But the negative evidence is still stronger in the same direction. The groups of Musophagidæ, Coliidæ, Lamprotornithinæ, Buphagidæ, Capitonidæ, Indicatoridæ, Bucerotidæ, and Otidinæ, so eminently characteristic of Africa, are entirely absent here, besides the genera *Gypogeranus*, *Helotarsus*, *Coracias*, *Crateropus*, *Irrisor*, *Bradyornis*, *Dryoscopus*, *Laniarius*, *Telephonus*, *Prionops*, *Platystira*, *Saxicola*, *Picathartes*, *Balæniceps*, and others, which are remarkably rich in individuals and species in Africa. Besides this, Larks and Chats, which in the African fauna are specially prominent on account of their numerous forms as well as their individual and specific abundance, are only represented by a single species in Madagascar itself, and in the rest of the Subregion not at all.

In conclusion, if we take a glance at the families of the Madagascar Subregion as compared with those of Africa, four of these (Mesitidæ, Paictidæ, Eurycerotidæ and Leptosomidæ) are peculiar, whilst the Diurnal Accipitres, Pigeons, Honey-eaters, and Cuckoos are richest in species. In a considerable degree this is also the case with the orders Grallæ and Anseres. As contrasted with Africa, the Fringillidæ, Meropidæ, and Sturnidæ (represented by only one genus) are extraordinarily poor; on the other hand, the Coraciidæ, Laniidæ, Artamidæ, Turdidæ, Muscicapidæ, Pycnonotidæ, and Lusiniidæ are remarkable for their peculiarly modified types, and the Sittidæ, which are quite unrepresented in Africa, for the anomalous form *Hypherpes*.