

like the rice-bird. Others are quaint and peculiar creatures allied to South American birds, but probably representing forms long since extinct on the continent. The bird fauna, as Wallace remarks, indicates that some of these animals are old residents, others more recent arrivals; and it is probable that they have arrived at various times since the early Tertiary. He assumes that the earlier arrivals have been modified in the islands "into a variety of distinct types," but the only evidence of this is that some of the species are closely related to each other. It is more likely that they represent to our modern eyes the unmodified descendants of continental birds of the early Tertiary. Darwin remarks that they are remarkably sombre in coloring for equatorial birds; but perhaps their ancestors came from a cooler climate and have not been able to don a tropical garb; or perhaps they belong to a far-back age when the vegetable kingdom also was less rich in coloring than it is at present, and the birds were in harmony with it. This, indeed, seems still to be the character of the Galapagos plants, which Darwin says have "a wretched, weedy appearance," without gay flowers.

These plants are in themselves very remarkable, for they are largely peculiar species, and are in many cases confined to particular islands, having apparently been unable to cross from one island to another, tho in some way able to reach the group. The explanation is that they resemble North American plants, and came to the Galapagos at a time when a wide strait separated North and South America, allowing the equatorial current to pass through and drift plants to the Galapagos, where they have been imprisoned ever since. This was probably in Pliocene times, and when we know more of the Pliocene flora of the southern part of North America we may hope to recover some of the ancestors of the Galapagos plants. In the mean time their probable origin and antiquity, as stated by Wallace, render unnecessary any hypothesis of modification.

Before leaving this subject, it is proper to observe that on the continents themselves there are many remarkable cases of isolation of species, which help us better to understand the conditions of insular areas. The "variable hare" of the Scottish highlands and of the extreme north of Europe appears again in the Alps, the Pyrenees, and the Caucasus, being in these mountains sepa-