

## CHAPTER I

### The Reality of the Islands

✓ The Galapagos Islands are fiercely beautiful volcanic peaks that have been erupting from the Pacific floor for millions of years. According to some geologists they are surface manifestations of the largest active volcanic area in the world. The oldest islands have been inactive for a very long time while the forces of erosion have obliterated the harsh features of their igneous origin and smoothed their contours. They have become clothed in a vegetation whose density and spinyness replaces the original menacing hostility of their <sup>geological</sup> structure. On the other hand some of the youngest islands have been in eruption within historic times - one as recently as two years ago. Altogether they are inhabited by a strange variety of unique animals and birds that evolved from ancestral colonizers through processes of bio-

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logical adaptation which have given the islands their renown.

My expectations of what the Galapagos Islands would be like were far from being disappointed. The actuality so greatly exceeded my imagination that all preconceptions have become lost in the labyrinths of my memory. Today I can no longer recall what I once thought they would be like. Those first images have been overwhelmed by the stronger ones of first hand experiences. The sight of an ash and pumice cone a third of a mile in diameter, its sides sliced down by the sea, like a floating saucer about to capsize, containing within its walls a shallow blue lake ringed with green, around which waded a flock of high-stepping, pink flamingoes, blotted out all vicarious images of crater lagoons. Or My first walk on the ropy surface of a lava flow as freshly iridescent as the day it gushed in liquid stone from a volcano's fiery mouth, obliterated all impressions formed by descriptions of volcanism in the islands. And when I watched from the deck of our sloop on a moonless night the trail of milky phosphorescence streaming away in the wake, all my preconceived ideas of a dark tropical sea were destroyed forever.

The Galapagos Islands, in 1892 renamed by the Ecuador government the Archepielago de Colon, straddle the Equator 650 miles west of South America. The climate they enjoy and the peculiar animal life they support are determined in large measure by the Humbolt Current <sup>which</sup> ~~that~~ bathes their southern shores. Originating in the cold Antarctic seas, this current carries with it from the depth of the ocean <sup>(which help support extensive)</sup> ~~the rich mineral and organic nutrients that~~ feed the fish and bird populations, occurring in such prolific



✓ <sup>(Flowing north)</sup> abundance along the coasts of Chile and Peru, <sup>(the current)</sup> it turns west <sup>(and travels)</sup> off northern Peru, flowing out into the Pacific just south of the Equator to touch the Galapagos Islands.

By riding this current at a time long past, one of the small species of South American penguins probably attained its farthest northward extension. How many times this voyage was made is unknown, though certainly the Galapagos colonizers have long been out of contact with their southern relatives, for without isolation they could not have developed <sup>the</sup> characteristics <sup>which the penguins</sup> of their own. Another colonizer, the fur seal, this one from the northern Pacific, extended its range to the Equator, perhaps at the time of North American glaciation. With <sup>the fur seals</sup> ~~them~~ also all connections with their ancestral relatives have been lost.

✓ P Whence came the giant tortoises, the Galapagos, for whom the islands were named, is a deep mystery. The most probable source for them, as for the iguanas, the Darwin finches, and the other land birds, is the South American mainland. Over the ages a slow trickle of animal and plant life has arrived at the Galapagos Islands by wind or by rafting on the ocean currents. The migrants have been accidental and they have been few and far between. Had it been otherwise the isolation of the occasional arrivals would have been broken, and their evolutionary adaptation to the special, austere conditions on the islands <sup>(would have been)</sup> interrupted by competition. <sup>the</sup> number of species found there today would be greater, <sup>than</sup> and their ancestral relationships to continental types <sup>would be</sup> more clearly apparent, <sup>(apparent)</sup> <sup>and</sup> their specialization and uniqueness less.

Although the big tortoises and iguanas first attracted



the attention of early visitors to the Islands, the remarkable tameness of all the animals and birds was a cause for comment and wonder. <sup>awe</sup> In spite of the awe they inspired, <sup>But</sup> the typically human impulse of early explorers was to kill the <sup>(creatures which)</sup> birds that came within range of their clubs. Ship logs contain many accounts of the vulnerability of the animals. Galapagos hawks whose curiosity led them to alight beside sailors from whaling ships were rewarded with blows. Other smaller birds were killed too, not for food as in the case of the tortoises and land iguanas, but simply because it could be done so easily. The vegetation, which in many respects was no less remarkable, did not receive the same notice as the birds. Its thorniness and impenetrability <sup>2</sup> was <sup>were</sup> a subject of complaint by those ship crews who attempted to make their way inland in search for water, but relationships to, and differences from, mainland forms went largely unnoticed. Few accounts are found of the giant opuntia, the tree form of prickly pear cacti, with orange-brown trunks more than three feet in diameter; or the scalesia, members of the composite family to which the sunflowers belong, individual varieties of which rivaled forest trees in size and are referred to as sunflower trees because in bloom their crowns are covered with small, white daisy-like flowers.

✓ As ~~would be expected~~ <sup>M</sup> many plants that grow in the Galapagos are found throughout the tropical world, whereas other kinds that might be expected to occur are missing. Thus red mangrove encircles the shores of the lagoons where the deposition of mud and sand affords favorable soil for its arching roots. This species of mangrove is the same as that found all along the



✓ coasts of tropical America wherever a favorable habitat is  
available, ~~both on the Atlantic and Pacific sides of the continents.~~  
On the other hand, ~~contrary to what at first thought one would~~  
expect, no native palms grow on the Galapagos Islands. No coconut  
palms fringe its white shell beaches, ~~as first-time visitors~~  
expect, and even those brought in and planted sicken and die after  
a few years of feeble growth. Some subtle features of the en-  
vironment are unfavorable for coconut palms; inimical factors in  
the climate or the ocean water prevent them from thriving. If  
this were not the case coconut palms would long ago have become  
established from the numerous available sources in the Pacific.

The history of the Galapagos Islands, their discovery  
by the Spaniards in 1535, their use a century later as a base by  
British buccaneers and privateers, and as a watering and provi-  
sioning place for American and English whalers in the eighteenth  
and nineteenth centuries has been well chronicled in various pub-  
lications and is beyond the scope of this book. My purpose is  
to describe as they are today these islands with their extraordinary  
forms of life, and to urge the need for their preservation against  
short-sighted commercial exploitation and over-zealous scientific  
collecting. They are a natural museum, unmatched anywhere in the  
world, of evolutionary processes at work under simplified conditions.  
Here Darwin gained his first insights into the origins of species.  
Since then many scientific expeditions have visited the Galapagos,  
and many studies made there have cast light on the forces of organic  
evolution that still continue today. Man's understanding of nature  
is an ever-growing body of knowledge to which these islands offer

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? undeniable opportunities for increase ~~by increments in detail~~  
and depth.] To allow these sources of addition to human wisdom  
to be wasted or thrown away would be the ultimate in short-  
sighted folly. Not only as a laboratory for scientific knowledge  
should these islands be preserved, but they should be preserved  
because they exist as one of the wonders of the world. Just as  
efforts are expended to save the whooping crane, to save the last  
of the redwoods, the Grand Canyon, wilderness and primitive areas  
and threatened species all over the world, so should effort be  
expended on saving the incomparable wonders of the Galapagos  
Islands.

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