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INTRODUCTION.

however, they are totally different; the toes of the Toucan being placed two before and two behind, while the foot of the Hornbill is of a broad palmated form, with three large partially united toes before and a more feebly developed one behind: still, although so nearly allied, the two groups constitute two distinct families, representing each other in the respective countries they inhabit; the Hornbills dwelling in Africa, India and its islands, and the Toucans in tropical America. South America then is the true habitat of this group, and the forests bordering the mighty Amazon the centre whence they diverge on either hand. It is there that we find the greatest number of species, and there every generic form is represented. From this central stronghold they range as far south as Paraguay and Bolivia; and their progress northward is not bounded by New Grenada, several species inhabiting the Isthmus which connects Southern with Central America, and two even extending their range as far as Mexico. The forests of the Andes and the Cordilleras also afford to several species a congenial place of abode. Some frequent the humid woods of the temperate regions, while others resort to the comparatively colder districts, and dwell at an elevation of from six to ten thousand feet; those inhabiting the lofty regions are generically different from those residing in the lowlands, and are clothed in a more thick and sombre-coloured plumage; all the members of the genus *Andigena* are thus distinguished, as well as by their bills being strong, heavy and hard when compared with those of the true Toucans and Araçaris, all of which have bills of a more delicate structure, and in several species so thin and elastic on the sides as to be compressible between the fingers.

Considerable diversity of opinion exists as to the peculiar uses for which the disproportionate bills of these birds are especially adapted, and as to the nature of the food upon which they subsist; some writers stating that they are strictly frugivorous, and that they never partake of animal food; while others affirm that they are quite omnivorous: my own belief is that fruits are, strictly speaking, their natural food, but that occasionally, as is the case with the Parrots and many fruit-eating birds, animal food is necessary to their well-being, and is then freely eaten: I have had many opportunities of observing that such is the case in a state of confinement, in confirmation of which I would refer to the interesting account by Mr. Broderip given with the description of *Ramphastos erythrorhynchus*. In this semi-domesticated state they will even eat mice, caterpillars, small birds, and flesh of any kind, especially raw beef; and I have little doubt that they would also eat fish if offered to them: Humboldt states, indeed, that the Toucan loves to fish on the banks of rivers, and it was doubtless some report of this kind that induced Linnæus to give the name of *piscivorus* to a species of this family; but I apprehend that in this particular both these celebrated men have been misinformed, for, as I have before said, I have every reason to believe that in a state of nature fruit is their principal food, the larger species, such as the *Toco* and the other members of the restricted genus *Ramphastos*, feeding upon Bananas and other succulent kinds, while the *Pteroglossi* and the Toucanets mainly subsist upon the smaller fruits and berries.

Many interesting notes respecting these birds have been published by travellers who have explored South America, and I cannot perhaps do better than give them in their own words; for although uncon-