

LATE CENOZOIC LAND MAMMALS AND INTERAMERICAN ENVIRONMENTS

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Because Late Cenozoic land life in the Americas is best represented in temperate latitudes, it has long been standard practice for paleontologists to infer the history of the Great American Interchange from the classic mammalian sequences in western United States and in Argentina. In this record it is also clear that interchange genera in South America (ultimately of northern origin) make up about half of the modern land-mammal fauna, in contrast with a very limited success on the part of the reciprocal cohort of interchange genera.

On the other hand, tropical biologists at least since the days of A. R. Wallace have known that the Amazon Basin was a very rich center of tropical diversity and that this Neotropical richness had spread northward at least to the latitude of Oaxaca and Veracruz in Mexico. Thus, mammalian paleontologists claim a victory for north temperate forces spreading south, whereas much of the modern biota seems to register a countervailing victory for south tropical forces spreading north.

Current paleontological research in tropical latitudes, especially in the western Amazon Basin, indicates the manner in which these two different views of interamerican biotic movements can be reconciled. In effect both views are true, because they represent alternating modes of interamerican interchange. Perhaps simplistically, we recognize a "glacial arid phase" and an "interglacial humid phase". During the former phases savanna habitats predominated even at tropical latitudes, as the western Amazonian records of the late Pleistocene strongly indicate. Because the source area in the temperate north was six times as large as that in the south, the great success of northern land mammal groups is explained. On the other hand, during interglacial humid phases, the principal biotic movement was from the vast Amazonian rainforest reservoir through the tropical latitudes of Mesoamerica. We review some of the new evidence of land mammals from tropical America in the late Pleistocene.