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PALEONTOLOGIA

NEW SPECIES OF HISPANIOLAN MONKEY: A COMMENT

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Although living nonhuman primates do not occur naturally in the Greater Antilles, it has been supposed for more than a quarter century that platyrrhine monkeys were once native to these islands. Jamaica and Hispaniola each previously have yielded fossil primates: a single mandible, *Xenothrix mcgregori* Williams and Koopman, 1952, and an isolated tibial fragment (Miller, 1929), whose affinities have always been in doubt. The recent discovery of dental remains pertaining to a demonstrably new species from the Dominican Republic, *Saimiri bernensis* Rimoli, 1977, is therefore highly significant, and a welcome addition to the meager record of fossil platyrrhines. *S. bernensis* is the first Antillean find associated with a radiometric date and is older than $3,860 \pm 135$ years (Rimoli, 1977). The widespread belief that extinct Antillean monkeys were exotics introduced by man is no longer tenable, in light of our augmented knowledge of their distribution and diversity and the endemicity of other land mammals (Simpson, 1956). It was perhaps that preconception which barred H. E. Anthony from appreciating the true importance of *Xenothrix* when unearthed in 1920, thirty-two years prior to its initial publication. G. S. Miller similarly denied the platyrrhine affiliation of the Dominican tibial specimen and identified it as an African *Cercopithecus*, large numbers of which were imported to the Caribbean during the slave-trader's heyday.

On the basis of the available material, a single maxillary fragment containing P^4-M^2 , Rimoli's (1977) interpretation of the new fossil is appropriately conservative. This specimen is certainly of a new species. However, my examination of the published photographs and measurements suggests that *S. bernensis* may represent a previously unknown genus. More

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important than its very large size, compared to mainland *Saimiri*, are its unique tooth proportions and occlusal morphology. A similar combination is not known among other members of this genus, nor among platyrrhines in general. My tentative conclusion is the '*S. bernensis*' is most closely related to the living cebines *Cebus* and *Saimiri*, themselves close relatives (Rosenberger, 1977), although it remains unclear which of these genera shared a more recent common ancestor with '*S. bernensis*'. Recent study of Miller's (1929) tibia from Samana Bay (160 km, Northwest of Cueva Berna) indicates that it is platyrrhine (Rosenberger, in prep.) It differs substantially from all living genera, a point appreciated by Miller and by Williams and Koopman (1952), and seems to be a suitable match for the maxilla in terms of size. Statistical analysis may clarify whether or not both specimens are potentially referable to the same species.

It is still impossible to recreate a zoogeographic history of '*S. bernensis*' with confidence, in part because the paleogeographic positions of the Greater Antilles and Central America are questionable. *Xenothrix*, with whom its history is probably tied, is a rather distant relative (Rosenberger, 1977 and in prep.), genealogically closer to South American 'non-cebines'. South and Central American *Saimiri* and *Cebus* are perhaps too derived to have given rise to '*S. bernensis*'. As a whole, Middle American primates have not diverged much from their South American kin, suggesting a relatively recent arrival associated with the isthmian uplift, little more than three million years ago (Berggren and Hollister, 1974), followed by significant extinction during the arid phases of the Pleistocene. By analogy, unless the *Xenothrix* and '*S. bernensis*' lineages achieved their highly distinctive morphologies in response to their marked (secondary) insularity, I doubt that they were involved in this late penetration. Instead, they may have departed South America somewhat earlier, perhaps along with edentates (Patterson and Pascual, 1972), to become passively isolated as the proto-Greater Antilles evolved into separate island blocks. Alternatively, had the *Xenothrix* and '*S. bernensis*' ancestral stocks taken early root in Central America, they may have been pressured into extinction by a Plio-Pleistocene wave of southern immigrants, which included the highly successful spider and capuchin monkeys.

Further discussion of these issues must await recovery of additional fossils, with ample stratigraphic and chronologic data, and more detailed phylogenetic analyses. Much more information on sea level fluctuations, sea floor spreading and continental drift between the Americas and in the Caribbean is sorely needed. Regardless of their origins, New World monkeys were certainly an important element of the Greater Antillean land mammal fauna. Rimoli's (1977) discovery of an exciting new relict will hopefully kindle a new age of archeological, paleontological and geological exploration in this region.

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