It should be mentioned that the Eocene−Oligocene has been recognized as a key interval for mammal intercontinental dispersal involving South America. First, a mixture of tectonics-induced uplift and peri-EOT sea-level drop may have promoted the formation of ephemeral land bridges connecting South America to (Greater) Antilles (see GAARlandia and GrANoLA hypotheses, 39, 40). Fossil and phylogenetic evidence suggest the timing of these episodic connections to coincide with the northward dispersals of mammals of South American origin, in particular sloths (7) and chinchilloid rodents (41), as well as other land organisms (83, 84), in turn greatly shaping the faunas of the unique Caribbean insular ecosystems. It would be interesting to study the diversification dynamics of these newcomers under the prism of their related continental counterparts, in the framework of insular biogeography. Also, Seiffert et al. (85) postulated that the fascinating trans-Atlantic journey that resulted in the arrival of anthropoid primates and hystricognathous rodents in South America could have been facilitated by the aforementioned peri-EOT sea-level drop. Though it matches well the early Oligocene age established for the basal anthropoid and rodent remains from the Santa Rosa locality (Ucayali, Peru) (56), the timing of this scenario is incompatible with the Eocene age of the oldest rodents from the CTA-27 locality (Loreto, Peru) (10), and the latest Eocene age of the anthropoid remains from TAR-21 (San Martín, Peru) (38), established through radiochronology and chemostratigraphy, respectively. Instead, as intensively discussed by Marivaux et al. (12), this trans-Atlantic crossing likely occurred millions of years earlier than the EOT, at the time of the mid-Eocene Climatic Optimum (MECO).

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