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Across Ancient Oceans: Mapping the Dispersal Routes of Asian Anthropoids to South America

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Résumé

Paleontological evidence reveals that between 40 and 35 million years ago, Asian anthropoid primates and rodents managed to disperse across vast stretches of open ocean-crossing over 500 km of the Tethys Sea to reach Africa and more than 1,500 km of the South Atlantic Ocean to arrive in South America. This talk explores a fundamental question in biogeography: how did these mammals traverse such vast seaways, and what routes might they have taken? We present a new high-resolution paleogeographic framework for the middle to late Eocene, focusing on the Neotethyan and Atlantic regions. This framework is built upon the latest plate kinematic reconstructions and paleogeographic datasets. Using this model, we assess how the arrangement and connectivity of landmasses along the Neotethyan margins may have facilitated faunal dispersals from Asia toward Africa and South America. Our reconstructions highlight two plausible island-hopping pathways across the Neotethys: one via southeastern Anatolia and another along Greater Adria. In the South Atlantic, we demonstrate that recent data support the partial emergence of the Walvis Ridge and Rio Grande Rise during this period. While these features may have served as stepping stones toward South America, this route would still have required crossing deep-water barriers more than 400 km wide. The precise mechanisms by which Asian primates reached South America remain elusive, but our findings help illuminate their possible migration pathways and bring us one step closer to solving this enduring paleobiogeographic puzzle.

Mots-Clés: Paleogeography, Cenozoic, Biogeography, Primates

*Intervenant