

PALEONTOLOGICAL RECONNAISSANCE OF THE CENTRAL ANDEAN MAIN RANGE BY HELICOPTER: ADDITIONAL NEW CENOZOIC MAMMAL FAUNAS FROM CHILE

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A several thousand km² swath of the central Andean Cordillera was prospected by helicopter during the austral summer of 2004, permitting identification and rapid survey of large areas of outcrop in remote or difficult to access regions. This led to the recovery of fossils from several parts of the range, and the identification of other areas worthy of future attention. We are grateful to NASA (NAG5-11354) for support of this exploration, satellite imagery/3-D topo mapping, and related fossil preparation and public education programs.

Well-preserved mammal specimens were recovered from two areas north of Laguna del Laja. The first of these sites occurs immediately N of the lake near 37° 10' S, some 40 km NNW of where we have reported fossil mammals from previously. Fossils are derived from several different volcanoclastic and fluvial horizons in western cliff-forming exposures of the Cura-Mallín Fm. north of the lake. A second set of localities was discovered ~15 km to the NE, in exposures originally mapped as the Plan de Los Yeuques Formation, but doubtlessly pertaining to the Cura-Mallín Fm. instead. Preliminary faunal evidence (xenarthrans, notoungulates, rodents) suggests that fossil bearing strata of these two regions are roughly temporally correlative with those SE of the lake (middle Miocene).

A thick sequence of volcanoclastic sediments within the Abanico (=Coya-Machalí) Formation from 35.0° S in the western reaches of Río Teno drainage is remarkably fossiliferous. Just a few hours of collecting yielded more than a dozen exceptionally preserved skulls and jaws over several kilometers of strike, and across nearly one km of stratigraphic section. Preliminary identification reveals that a superposed sequence of faunas is almost certainly preserved in this section. The lowest horizons we sampled are dominated by low-crowned ungulates, probably indicative of a pre-Tinguirirican SALMA fauna (?Casamayoran), whereas in horizons higher in the section rodents and hypsodont herbivores are common (likely Tinguirirican or younger).

The success of this venture emphasizes the nearly limitless potential that Cenozoic volcanoclastic sediments of the central Andes have for illuminating the history of South American mammals. Even after more than 15 years of intensive investigation, paleontologists are still just beginning to scratch the surface of these vast deposits.