

FIRST DATA ON PLIOCENE CONTINENTAL FOSSIL RECORD OF ARMENIA, SOUTHERN CAUCASUS

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Southern Caucasus with its geographic position at the crossroad of three continents is an important region in understanding past faunistic dispersals. In the few existing earlier works, this already partially was demonstrated by its continental fossil record. However, despite the availability of Cenozoic continental deposits in Southern Caucasus, their potential for systematic studies of Cenozoic vertebrates and palaeoenvironmental and palaeoclimatic studies has hardly been used. Here, we present our results of an interdisciplinary study on the Pliocene succession from Jradzor (Central Armenia, Lesser Caucasus). The 54 m thick continental succession comprises at least 15 horizons of vertebrate fossil faunas. The ⁴⁰Ar/³⁹Ar dating of abundant volcanic ashes along with an extensive palaeomagnetic sampling dated the section between 4.3 and 3.1 Ma. Six sedimentological units can be identified in the section: Unit 1 (distal lacustrine setting) with a white thinly-laminated diatomite succession; Unit 2 (palaeosol and downslope deposits) with brown mottled mudstones; Unit 3-4 (distal tail of pyroclastic flows) with mudstones containing extensive erosive sheet-like coarsening-upwards packages of scoria and pumice; Unit 5 (palaeosols and downslope deposition) with brown mottled mudstones; Unit 6 (alternating volcanoclastic and palaeosol environments). The lacustrine unit 1 provides both aquatic (mainly fishes) and rare terrestrial forms. The fossiliferous horizons of units 3, 4, 6 contain vertebrate faunas including amphibians, reptiles, birds and mammals. Here, horizons JZ-3 and JZ-13 are the richest ones with dominance of small sized vertebrates. Further, the horizon JZ-7 is remarkable with its rich large mammalian assemblage, including rare arvicolids and toads. All vertebrate groups suggest warm, rather dry and open habitats with very rare, forested regions. Based on a complex dating approach (biostratigraphy, ⁴⁰Ar/³⁹Ar, and palaeomagnetic data) the age of the units is estimated as early Pliocene (unit 1-4), early/late Pliocene (unit 5) and late Pliocene (Unit 6).