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U/TH DATING OF A TUFA DEPOSIT FROM THE CARSOli INTRAMONTANE BASIN (ABRUZZO, ITALY)

ABSTRACT: DRAMIS F., SOLIGO M., GRACIOTTI E., D'OREFICE M. & GRACIOTTI R., *U/Th dating of a tufa deposit from the Carsoli intramontane basin (Abruzzo, Italy)*. (IT ISSN 0391-9838, 2008).

A few km far from the confluence of the Fioio Valley into the Carsoli basin, some hundreds m² wide and ca. 1.5 m thick carbonatic deposit is present, embedded within late Middle Pleistocene alluvial gravels. The deposit formation might be related to sub-aerial deposition of CaCO₃ (*tufa*) from emerging groundwater. A U/Th dating to 46 ± 6 ka BP constrains the deposit within the MIS 3, corresponding to a phase of warming between the MIS 4 and 2. (KEY WORDS: Tufa, U/Th dating, Quaternary, Intramontane basin, Apennine, Italy).

Riassunto: DRAMIS F., SOLIGO M., GRACIOTTI E., D'OREFICE M. & GRACIOTTI R., «*Datazione U/Th di un deposito travertinoso nel bacino intermontano di Carsoli (Abruzzo, Italia)*». (IT ISSN 0391-9838, 2008).

A pochi chilometri dallo sbocco del Fosso Fioio nella Conca di Carsoli, incassato entro sedimenti alluvionali del Pleistocene Medio finale, si rinvengono un deposito carbonatico esteso poche centinaia di m² e spesso non più di 1,5 m, la cui genesi può essere riferita, con ogni probabilità, alla deposizione di travertino da parte di acque sorgive. Una datazione U/Th del deposito ha fornito una età di 46 ± 6 ka BP che lo colloca all'interno dello stadio isotopico 3, corrispondente a una fase di riscaldamento tra gli stadi isotopici 4 e 2. (TERMINI CHIAVE: Travertino, Datazione U/Th, Quaternario, Bacini intermontani, Appennino, Italia).

INTRODUCTION

The scarcity of chronological data represents a heavy limit to the understanding of the geomorphologic-stratigraphic evolution of continental environments. In this context, isotopic dating methods may play a relevant role.

The U/Th dating of a carbonatic deposit, outcropping in the central-southern sector of the Carsoli intramontane basin, sided by geochemical and mineralogical-petrographic analyses, allowed to chronologically constrain its deposition as well as to formulate a possible interpretation of its genetic process.

The obtained chronological/palaeoenvironmental data may result particularly important in defining the Quaternary stratigraphic succession of the Carsoli basin in the morphoevolutive context of Central Apennine, where few chronological data are still available.

THE GEOLOGICAL CONTEXT

The Carsoli intramontane basin where the carbonatic deposit outcrops is placed in the western sector of Central Apennine, close to the Abruzzo/Latium border (fig. 1). It consists of a wide tectonic depression, located at the contact between the «laziiale-abruzzese» platform domain, to the east, and the transitional «sabino» domain to the west, both separated by the «Olèvano-AnTRODoco» lineament (Parotto & Praturlon, 1975).

In the Carsoli basin a thick succession of continental sediments of Quaternary age outcrops. The basal ones were deposited on the bottom of an ancient lake, which has probably occupied the basin since the Lower Pleis-

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