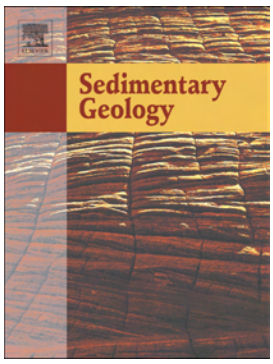

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Diethard Sanders, Hugo Ortner, Hannah Pomella

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Stratigraphy and deformation of Pleistocene talus in relation to a normal fault zone (central Apennines, Italy).

Diethard Sanders[a,*] , Hugo Ortner[a], Hannah Pomella[a]

[a] Institute of Geology, Faculty of Geo- and Atmospheric Sciences, University of Innsbruck, 6030 Innsbruck, Austria/EU.

* corresponding author

e-mail adresses: Diethard.G.Sanders@uibk.ac.at (Diethard Sanders), Hugo.Ortner@uibk.ac.at (Hugo Ortner), Hannah.Pomella@uibk.ac.at (Hannah Pomella)

ABSTRACT

In studies of neotectonism, alluvial-fan and talus deposits commonly are used as deformation markers, but rarely are studied themselves and in relation to adjacent faults. Herein we report on the facies, diagenesis and deformation of a talus succession and fault cataclasites in the central Apennines of Italy. The study site is located near the western end of the Assergi normal fault zone that accomodates >2000 m of vertical throw, but was dormant since a longer interval of time.

The preserved talus succession is confined to the fault hangingwall. Deposition and deformation of the talus overlapped with the terminal phase of fault activity. The talus accumulated mainly from grain flows, cohesive debris flows and ephemeral fluid flows; it comprises (i) two superposed units of scree breccias, partly cemented before deformation, and intercalated with (ii) an interval of unlithified scree and soils. The exposed succession accumulated between ≥33-30 cal ka BP to less than ~22 cal ka BP. Talus breccias record complex diagenetic successions including eluviation/dissolution of primary matrix, growth of