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SERGIO GINESU (*)

A NEW LAKE IN ITALY (SOUTHWESTERN SARDINIA): A MAAR?

ABSTRACT: GINESU S., *A new lake in Italy (Southwestern Sardinia): a maar?* (IT ISSN 0391-9838, 2012).

This study of a small lake basin located near the southwestern coast of Sardinia has allowed individualisation of this morphology as this lake is linked to the volcanic outcrops of the Oligo-Miocene that constitute the basement of this territory. The historical, physical and geological characteristics of this lake, known as «Stagno'e Forru» («stagno» means «pond», so it has always been considered as such), allow us to hypothesise to a possible origin as a maar formed during the final activity of the calc-alkaline cycle in the Oligo-Miocene span. The possible genesis is examined and discussed within the recent evolution of the landscape. Its age, in accordance with the ancient shorelines individualised in the sea base and in the cords of the beach, cannot be established, making drilling of the lacustrine deposits necessary for further investigation. However, knowledge of this lake is significant because it is the confirmation of another lake existence in Sardinia; until now, Sardinia is known to have only one natural lake, which was formed by an aeolian obstruction.

KEY WORDS: Origin of lakes, Maar, Landscape evolution, Sardinia, Italy.

RIASSUNTO: GINESU S., *Un nuovo lago in Italia (Sardegna sud occidentale): un maar?* (IT ISSN 0391-9838, 2012).

Lo studio di un piccolo bacino lacustre situato in prossimità della costa sud-occidentale della Sardegna ha permesso di individuare tale morfologia come un lago legato all'attività vulcanica dell'oligo-miocene che costituisce il basamento del territorio interessato dall'indagine. I caratteri storici, fisici e geologici di questo lago, conosciuto come lo «Stagno'e Forru» e, come tale, sempre considerato uno stagno, consentono di ipotizzare la sua origine formata da un maar, quale morfologia relitta dell'ultima fase di attività del ciclo vulcanico calc-alcalino dell'Oligo-Miocene. La sua genesi viene esaminata e discussa nell'ambito dell'evoluzione recente del paesaggio. La sua età, in accordo anche con le antiche linee di riva individuate nella piattaforma a mare e nei cordoni di spiaggia, potrà essere riconosciuta con maggior precisione grazie alla campagna di sondaggi che si sta effettuando sui sedimenti del suo fondale. La sua conoscenza appare comunque significativa perché in Sardegna, finora, è noto un unico lago naturale la cui origine è legata ad uno sbarramento eolico.

TERMINI CHIAVE: Laghi, Maar, Evoluzione del paesaggio, Sardegna, Italia.

INTRODUCION

Sardinia is known to have only one natural lake, Baratz lake, which is located in the northwestern sector of the island near the city of Alghero. The origin of this lake is linked to the cold climate variations of the upper Pleistocene, when the accumulation of sand pushed by the Mistral wind (coming from NW) caused the obstruction of a small river, thus creating an aeolian obstruction lake.

The main aim of this study is to define this water body as a new lake and to investigate its possible origin. Therefore, it is important to remember what conditions are universally approved in defining the existence of a lake with certainty; it is especially useful to remember the definitions offered by the physical geology, physical geography and geography. Generally, this form is defined as a «Depression of the surface occupied by water generally isolated, not in direct communication with the sea»; and, according to geographical texts, the «water's basin is not immediately connected with the sea» (Palagiano, 1972). The definition is more exact in physical geography: «in physical terms, lakes can be defined as a mass of water, generally isolated, but sometimes brackish or also salty, located in natural depressions of the continental surface, without direct communication with the sea; the communication with the sea can happen through a river arm or it can be completely absent. The origin of the lakes can be reported to different causes of geologic, geomorphologic and also human nature» (Lupia Palmieri & Parotto, 2000). Also, specific texts on the origin of such forms offer the concept that a «lake is a water-filled hollow in the earth's surface, inland from the ocean» (Burgis & Morris, 1987).

A geomorphologic survey along the coast of southwestern Sardinia, with the purpose of reconstructing the recent

(*) *Dipartimento di Scienze della Natura e del Territoriobotaniche, ecologiche e geologiche, Università di Sassari - Italy*. ginesu@uniss.it

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