

water precipitations (rain, snow) by roofing of the wall crowns. Missing or deteriorated building stones could be replaced by material taken from the deeper parts of the local andesite quarry.

Geology of the Caucasus and adjacent areas: 1:2 500 000 scale geological map

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The geological map of the Caucasus and adjacent areas of 1:2 500 000 scale, being presented on the 19th Congress of the CBGA includes on-shore and off-shore parts of the Black Sea-Caspian Sea region (Fig. 1). Small-scale thematic (geologic, tectonic, metallogenic etc) maps of the World and its large parts, such as Europe, Middle East etc., have been periodically compiled and published under umbrella of the Commission for Geological Map of the World (CGMW), for example: carte geologique de l'Europe, 1:10 000 000, 1970; carte tectonique de l'Europe et des regions avoisinantes, 1:10 000 000, 1975; carte tectonique internationale de l'Europe et des regions avoisinantes, 1:2 500 000, 1980; geological map of the Middle East, 1:5 000 000, 1986; 1:5 000 000 International geological map of Europe and adjacent areas, 2005, BGR Hannover; the international geological map of the Middle East, 1:5 000 000, second edition, 2009-2010. The Caucasian region, situated at the junction of the European and Asiatic segments of the Alpine-Himalayan orogenic belt and serving as a connecting link between these two branches, as a rule, is illustrated by maps of the both segments. The presented map demonstrates up-to-date level of knowledge on geological structure and evolution of the region.

Mapping the spatial distribution of precipitation, biological soiling, and decay on monuments in Northern Ireland: towards understanding long-term stone response to moisture

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The Natural Stone Database for Northern Ireland was constructed to address the paucity of information available to stone conservation practitioners. Almost 2000 listed buildings, 260 monuments and 118 quarries were surveyed over three years to produce an interactive GIS database for the Northern Ireland Environment Agency. This contains information on stone sources, together with details of stone condition and decay processes and is complimented by a website available to the general public. This paper uses elements of this GIS to link annual rainfall data for Northern Ireland with information on the biological soiling, and decay of stone monuments across the province to examine the relationship between moisture and availability on these processes. Results suggest that biological soiling is indeed strongly influenced by moisture availability (i.e. precipitation), with higher levels of biological soiling evident in the wetter North-West of Northern Ireland where annual precipitation is higher in response to a strong Atlantic signal. This compares to lower levels of biological soiling evident in the more rain-sheltered South-East of the province. Stone deterioration appears to be less influenced by climate and more closely related to the geology characteristics with higher levels of decay often observed on sandstone monuments and lower levels of decay associated with areas in which low porosity stone types such as basalt predominate. The results have clear implications for future patterns of soiling in light of projections for regional climate change that indicate increased winter wetness, but they also demonstrate the

multifactorial nature of the controls on stone decay and highlight the need for careful and thorough analysis before any generalizations are proposed.

The Early Pleistocene fish fauna of Faliraki Bay section (Rhodes Island, Dodekanese)

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The first results regarding the Early Pleistocene Teleostean marine fish fauna of the Faliraki area (Rhodes Island, Dodekanese) are presented as revealed through the study of fish otoliths. In the Faliraki Bay section outcrops the Rhodes Formation, consisting of Kritika Member, Kolymbia Member, and Lindos Bay Clay Member, both now assigned to the Early Pleistocene. Fish otoliths have been found within the Kolymbia and Lindos Bay Clay Members.

Significant is the first record of the modern species *Notoscopelus bolini* Nafpaktitis 1975 in the Kolymbia Member of Faliraki Bay section. *N. bolini* resembles the *N. elongatus* which has been recorded in various localities of the Western and Central Mediterranean, but has a greater postero-ventral width. The Faliraki specimen also shares a lot of characters with *N. resplendens* of Nolf & Cappetta from the Neogene sediments of SE France may also be attributed to *Notoscopelus bolini*. This species has been recorded in the Mediterranean Sea since the Tortonian, and today it occupies the central – eastern Atlantic Ocean and the Mediterranean Sea. It is a temperate pelagic – oceanic species, which exhibits a maximum abundance between 45-50 meters modern sea depth. Important also is the presence of the *Lampadena* aff. *urophaos atlantica* Maul 1969 in the Early Pleistocene deposits of the Kolymbia Member, which has previously only been recorded in the Middle Pleistocene bathyal deposits of Vallone Catrica section. The modern distribution of this species is restricted to the North Atlantic. It is a bathypelagic species which occupies water depths between 60 m and 1000 m.

The sediments of the Lindos Bay Clay Member of Faliraki Bay section reveal a very rich otolith association. The great majority of specimens belong to the Myctophidae family, with representatives namely *Ceratoscopelus maderensis* Lowe 1939, *Diaphus holti* Taning 1918, *Diaphus rafinesquii* (Cocco 1838), *Diaphus taaningi* Norman 1930, *Hygophum benoiti* (Cocco 1829), *Hygophum hygomi* (Lutken 1892), *Lobianchia dofleini* (Zugmayer 1911), *Electrona risso* (Cocco 1829), *Notoscopelus* sp., *Myctophum punctatum* Rafinesque 1810, *Benthoosema glaciale* (Reinhardt 1837) (very scarce and small otoliths only), *Lampanyctus crocodilus* (Risso 1810), and *Scopelopsis pliocenicus*. Present are also members of the family Gadidae, such as *Gadiculus argenteus* Guichenaut 1850, as well as Gobiidae. The Teleost fish assemblage of the Lindos Bay Clay Member is composed of an abundant and diversified pelagic group and to a lesser degree by a benthopelagic and benthic group. This type of fauna generally characterizes the continental slope environment, with the depth usually exceeding 200 meters. This is in good agreement with the estimations of 300-600 meters in the lower part of the section to 200-300 meters near the top, as provided through the study of the bryozoans associations in the Lindos Bay section.