DISCHARGE PROPERTIES OF RADON ISOTOPES IN HELLENIC GEOTHERMAL FIELDS

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Two groups of radon's isotope (Rn^{220} and Rn^{222}) measurements were carried out, first in the flat part of the Nissyros Caldera, and secondly in the Sousaki geothermal field area. Some representative measurements were also performed in Western Kos, in the Voulkania geothermal area.

Radon (Rn^{222}) originates from U^{238} disintegration and thoron (Rn^{222}) from Th^{232} disintegration. These Rn isotopes are significant because of their origin; they have been used in order to inexpensively locate uranium and thorium source-deposits, while their anomalous concentrations have been reported to correlate with active geological elements. The emission of these isotopes was measured in the above geothermal areas by the R.M. 1003 radon detector (Pylon instruments).

Two profiles, one from the Nissyros Caldera and one from the Sousaki area were made in order to detect anomalous concentrations of Rn isotopes. It was found that significant anomalous Rn concentrations were observed in these regions. However, the amplitude of the anomaly was higher in Nissyros than in the Sousaki geothermal field. The observed difference in the amplitude emission of these isotopes was explained as due to the difference in the lithology and geothermal activity characteristics prevailing in Nissyros Caldera and Sousaki area. The distribution of Radon and Thoron in these areas was also correlated with the geology and the oddities of the geothermal field. It appears that their distribution depends on geothermally active elements, like faults, and this method seems to be sensitive in detecting such geological formations, at a very low marginal cost.

TWO LAGOMORPHS FROM THE PLIOCENE OF MACEDONIA, GREECE

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The Pliocene mammalian localities of Greece and of eastern mediterranean regions are few with poorly known faunas. One of them is the locality of Megalo Envolon in Macedonia (Greece) known from the beginning of this century. During our investigations in the area, three different fossiliferous levels have been found and few material of large and small mammals has been collected. The first fossiliferous site (MEV) is situated at

the sea level, the second (MEM) about 20 m higher and the third one (MEL) 10 m above the second. Among the new collected material are some specimens of lagomorphs. These lagomorphs belong to *Trischizolagus* and they are determined as *T. dumitrescuae* and *T. cf. maritsae*. The first species is characterized by large size and well developed mesoflexid. The other is a small-sized leporid similar in size with *Trischizolagus maritsae* from Rhodes (Greece) and thus it is referred as *T. cf. maritsae*. The presence of *T. dumitrescuae* in Megalo Emvolon gives also some data about the age of the locality. The type locality of this species is Malusteni (Romania) and belongs to late Ruscinian, MN 15. The possible presence of *T. maritsae*, which belongs to early Ruscinian, MN 14, indicates an older age. Nevertheless the age indicated by *T. dumitrescuae*, which is certainly represented in the locality, is confirmed by the other faunal data. Thus a late Ruscinian age, MN 15, is possible for tha Megalo Envolon locality.

A STENONOID HORSE (EQUIDAE, MAMMALIA) FROM THE VILLAFRANCHIAN OF WESTERN MACEDONIA (GREECE)

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An equid sample from the Vilafranchian of western Macedonia is studied. The material was found in the locality of "Dafnero 1" (DFN), situated near the village of Dafnero, about 30 km southwestern to Kozani. The DFN horse is described and compared with the villafranchian ones. The morphological characters of th studied equid are similar to those of Equus stenonis, while its dimensions suggest a large-sized form. The comparison with the various subspecies of E. stenonis indicates great similarities with the form from St-Vallier (France) and especially with the form from La Puebla (Spain). Thus the DFN equid is referred under the name Equus stenonis cf. vireti. Its close relations with that from La Puebla and St-Vallier suggests a middle Villafrancian age, MN 17.

THE YOUNG PALEOZOIC AND TRIASSIC TETHYAN ROCKS IN THE EXTERNAL HELLENIDES ON CRETE - THE NORTHERN BORDER OF GONDWANA

J. Krahl

Within the External Hellenides on Crete extended investigations have been made in the Talea Ori group, the Trypali group, the Phyllite group, and the Tripolitza group.

