

Preface

This special issue of the *Turkish Journal of Earth Sciences* contains selected scientific contributions that were originally presented at the “*International Earth Sciences Colloquium on the Aegean Region - IESCA 2000*”. The first IESCA was in 1966 as a one-day gathering at Clausthal University (Germany) and was attended only by the German earth scientists. The second and third meetings were held at Marburgh and Munich Universities, and was attended by French, Dutch, Bulgarian, Greek, Swiss, German and Turkish earth scientists. The fourth and fifth meetings were organized by the Geological Research Centre (Hannover, Germany) and the Natural Science and Research Centre (CNRS, Paris, France), respectively. The sixth meeting was organized by the Earth Sciences Faculty of Ege University (İzmir-Turkey) in 1977. Subsequently, through the initiative of the Dokuz Eylül University (İzmir, Turkey), IESCA became a quinquennial congress that was convened in 1990, 1995 and 2000 in İzmir, with much broader international participation. The last one (IESCA 2000) was held in the Cultural and Convention Center of Dokuz Eylül University, İzmir, Turkey, during the period September 25-29, 2000. The meeting provided an opportunity for earth scientists to present up-to-date results of research, particularly from the Aegean Region and surrounding areas. About 200 delegates attended the congress from many different parts of the world, including Albania, Australia, Azerbaijan, Bulgaria, Canada, China, France, Georgia, Germany, Great Britain, Greece, Israel, Italy, Kazakhstan, Morocco, Poland, Russia, Switzerland, The Netherlands, the USA, Turkey and Yugoslavia. During the congress, about 200 presentations, both oral and poster, were made in 18 special theme sessions.

The five manuscripts in this special issue include a selection of papers presented in different theme sessions of IESCA 2000. In addition to the papers contained in this issue, 23 other papers were published in the IESCA 2000 Proceedings.

Gürer and Yılmaz study the geology of the Ören graben and surrounding areas. They suggest different episodes of basin development; (1) the E-W-trending Kale-Tavas basin was formed during the Oligocene above the contemporaneously southerly-transported Lycian Nappes, as a piggy-back basin; (2) the N-S-trending Ören

basin formed slightly later during the Early Miocene, when E-W extension began; (3) a new group of basins was developed along rejuvenated N/NW-S/SW-trending faults during the Late Miocene when N-S extension began, and possibly survived into the Early Pliocene; (4) the modern Gökova graben developed later, along E-W-trending normal faults, which cut and truncate the older units and their associated structures.

Gürer *et al.* present preliminary data of resistivity distribution in the crust around the Gediz graben obtained using the magnetotelluric (MT) method along two (73-km and 16-km- long) MT profiles. Bostick depth transformation of the resistivity component of the MT data denotes a conductive zone (10 ohm.m) at a depth of approximately 10 km, which corresponds to the foci of earthquakes in the region. This zone may be related to the crustal extension and high regional heat flow.

Photiades presents evidence for the origin and tectonic significance of Oligocene-Early Miocene age ophiolitic molasse from Ikaria Island that lies in the east-central part of the Aegean Sea and occupies the northeastern part of the Cycladic Archipelago. It is suggested that the conglomerates and olistostromes of the molasse unit, rich in ophiolitic clasts, were probably derived from Late Cretaceous oceanic crust. The origin and provenance of this unit is attributed to the present Cretan Basin related to the Eocene-Miocene Meso-Hellenic trough of continental Greece. The emplacement of the molasse unit occurred in the Late Miocene, and its sense of movement was from south to north. The molasse unit also passes into the Late Oligocene-Early Miocene SW Anatolian molasse basin of Kale-Tavas and Denizli in Turkey to the northeast.

The Upper Cretaceous stratigraphy of the Beydağları carbonate platform of the western Taurides is the subject of Sarı and Özer. They describe the Upper Cretaceous evolution of the Beydağları carbonate platform based on detailed stratigraphic sections and fossil contents. Contrary to the widely held idea that the establishment of the pelagic facies began in the Turonian throughout the Beydağları autochthonous unit, they propose that platform conditions persisted until the end of the Early Santonian. They also claim that the platform was

subaerially exposed in the Santonian-Campanian and Cretaceous-Palaeogene, and thus the Early-Middle Campanian and Late Maastrichtian are totally absent.

Çifçi *et al.* present the results of detailed sonar and high-resolution seismic studies in the eastern Black Sea, one of the largest inland seas in the world, lying at the junction of Europe and Asia. They used SIMRAD EM 12S low-frequency multibeam and SEABAT echosounders to obtain bathymetric charts and reflectivity maps of the sea floor, and a MAK-1 deep-tow side-scan sonar and sub-bottom profiler system to obtain acoustic images of the sea floor and shallow sediments. Their results show that the eastern Black Sea has all the geomorphological elements of a normal deep-water basin, such as continental shelf, slope, continental apron and abyssal plain - on both the Russian and Turkish sides. Gas hydrate formations have been detected throughout the Turkish shelf as strong reflections on sub-bottom profiler records.

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