

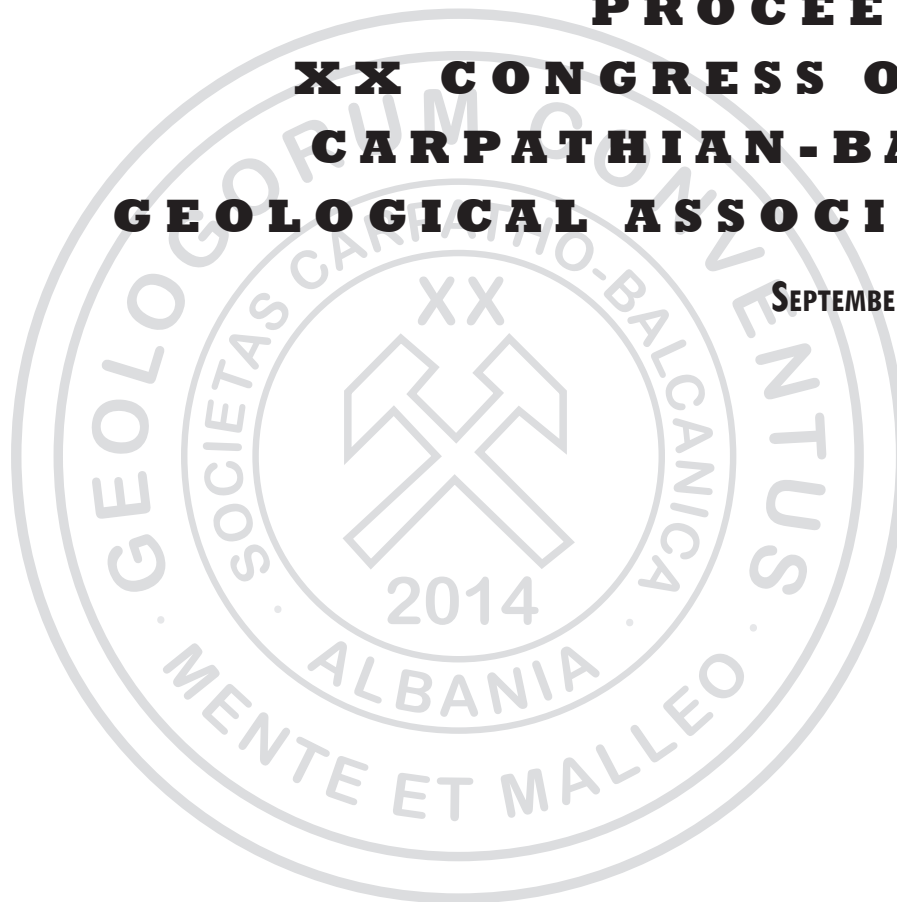


BULETINI I SHKENCAVE GJEOLGJIKE

**PROCEEDINGS
XX CONGRESS OF THE
CARPATHIAN-BALKAN
GEOLOGICAL ASSOCIATION**

SEPTEMBER 24-26, 2014

TIRANA ALBANIA



**Special Issue
Volume 2/2014
General Sessions**

Editors

**Beqiraj A.
Ionescu C.
Christofides G.
Uta A.
Beqiraj Goga E.
Marku S.**

TIRANA 2014

OSTRACODA ASSEMBLAGE OF THE MIDDLE-LATE MIOCENE KUŞADASI FORMATION, SÖKE BASIN, WESTERN ANATOLIA, TURKEY

Tuncer A¹ and Tunoğlu C¹

¹Hacettepe University, Department of Geological Engineering, 06800, Beytepe, Ankara, Turkey, alaettintuncer@hacettepe.edu.tr

Abstract

Söke Basin is located about 40 km west of the Aydın City, in western Turkey. The basin started to form during Early Miocene like several other basins in the “Western Anatolian Extensional Province” and exhibits a thick Neogene succession. The Kuşadası Formation unconformably overlies the Early-Middle Miocene Söke Formation and is represented by clast-dominated lithologies at the lower and middle parts. The lower part mainly consists of pebbles, while the middle part comprise sandstone-claystone alternations. The formation gradually passes to carbonate-dominated lithologies towards the upper parts and it is unconformably overlain by the Late Pliocene-Pleistocene Fevzipaşa Formation. The total thickness of the formation is approximately 120 meters.

Six stratigraphic sections were measured along the middle and upper parts of the formation and sixty-seven samples were collected. Ostracoda fauna assemblage, composing of sixteen taxa belonging to nine genus (*Paracandona*, *Candona*, *Ilyocypris*, *Prionocypris*, *Herpetocypris*, *Cyprinotus*, *Potamocypris*, *Leptocythere* and *Limnocythere*), was recovered from only thirty-five samples. As well as Ostracoda, *Leuciscus* sp., *Barbus* sp., cf. *Scardinius* sp. and *Cobitis* sp. fish remains belonging to Cyprinidae family, *Valvata pulchella*, *Bythinella badensis* and *Bythinella* sp. shells belonging to gastropoda fauna are also obtained from the samples.

Chronostratigraphic ranges of the obtained Ostracoda genus indicate a Late Miocene age. Also Hisartepe Volcanics, cutting clast-dominated lower and middle parts and overlain by the carbonate-dominated upper parts, are radiometrically dated (⁴⁰Ar/³⁹Ar) as 12,31 ± 0,09 Ma (Serravallian/late Middle Miocene) by Sümer et al. (2013). By the evaluation of all the data, the age of the formation is calibrated as Middle-Late Miocene.

Ostracoda and gastropoda records and lithological features indicate that Kuşadası Formation was deposited in permanent and shallow to relatively deep freshwater lake conditions. Furthermore, it is determined that periodic salinity increases and an ingression influence existed, as it is recorded by an increase in the abundance of the marine species *Leptocythere psammophila*.

References

- Sümer, Ö., İnci, U., Sözbilir, H., 2013. Tectonic evolution of the Söke Basin: Extension-dominated transtensional basin formation in western part of the Büyük Menderes Graben, Western Anatolia, Journal of Geodynamics, 65, 148-175.