delphix (NN1) and *Sphenolithus disbelemnos* (NN2) while the species of *Dictyococcites bisectus* is absent. At the same time the level of reworked species is high.

Stratigraphy and Larger Foraminifera of the Eocene Shallow-Marine and Olistostromal Units of the Southern part of Thrace Basin, NW Turkey

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The Eocene marine sequence in the southern part of the Thrace Basin (NW Turkey) involves a variety of platform and deep-marine olistostromal units, the stratigraphies of which have been highly debated in the past. A detailed analysis of larger foraminifera in these either foraminifera or foraminifera-coral-coralline algae-dominated platform and associated comparatively deeper-marine units permits us to establish a high-resolution biostratigraphy in the context of shallow benthic zonation (with SBZ Zones) of Tethyan Paleogene.The oldest Zone (SBZ 5 corresponding to the basal Ypresian) was observed only in olistoliths. An old erosional remnant of a transgressive shallow marine to basinal sequence (Dişbudak sequence; late Ypresian-? middle Eocene) was recognised below the the regionally most widespread carbonate platform unit, Soğucak Formation. The Dişbudak sequence, previously considered to belong to the Soğucak Formation and formally introduced recently, contains the foraminifera, such as orthophragmines, nummulitids and alveolinids in its shallow-marine package referred to SBZ 10 (late Ypresian). The Soğucak Formation, which oftenly exhibits patchy reef developments, contains a rich and diverse assemblages of orthophragmines (*Discocyclina*, *Orbitoclypeus* and *Asterocyclina*), nummulitids (reticulate and other *Nummulites*, *Assilina*, *Operculina*, *Heterostegina* and *Spiroclypeus*), and other benthic taxa (*Silvestriella*, *Pellatispira*, *Chapmanina*, *Orbitolina*, *Linderina*, *Gyroidinella*, *Fabiania*, *Halkyardia, Eoannularia, Sphaerogypsina, Asterigerina, Planorbulina* and *Peneroplis*). Their assemblages, referred to SBZ 15/16, 17, 18, 19 and 20 Zones, provide a precise tool for recording the history for marine events having resulted in the deposition of Soğucak Formation during mainly four periods. The spatial distribution of them, recorded as Late Lutetian, Early Bartonian, Late Bartonian and Priabonian, within the present paleogeography, suggest a marine inundation from W-SW to E-NE. The Çengelli flysch sequence overlying the Soğucak Formation in a limited area to the east of Gelibolu peninsula, contains the benthic foraminifera mainly in the limestone olistoliths, mostly derived from the Soğucak Formation, and also in the turbiditic levels. The assemblages in the olistoliths reveal the existence of various shallow-marine limestone sequences ranging in age between (late) Bartonian and early Priabonian.

An Investigation of Biogeochemical Anomalies for Li and Sr in the Kırka (Eskişehir -Turkey) Borate Mining Area

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Biogeochemistry was founded by V.I. Vernadsky in the 1926. But a few journals were able to report all of the important developments in biogeochemistry in the 1950's. Recently,

biogeochemical prospecting methods are successfully used for detection of the new mineral deposits in the underlying substrate. This method involves the chemical analysis of some plants and determination of indicator plants for some elements. The aim of this study is to determine plant-soil relationships for the native plant species that grow directly on the Kırka (Eskişehir-Turkey) borate mining area. The information obtained from this study could be used to establish guidelines in order to determine of indicator plant species for Li and Sr. *Genista aucheri* Boiss, *Euphorbia hirsuta* L., *Juniperus oxicedrus* L. subsp. and *Pinus nigra* Arn. plant samples and soil samples of them were collected in and around the Kırka (Eskişehir-Turkey) borate mining area, at 46 stations. Plant and soil samples were analysed for Sr, Li, Cu, Zn, Mn, Co and, Ni, with the flame atomic absorption spectrophotometer (FAAS). In the same way the B concentrations in plants and soil samples were measured the absorbance at 420 nm by spectrophotometer. The Li and Sr contents of plant and soil samples were determined. Then, biogeochemical anomalies of them were investigated. Element contents of the plant samples were compared with the element level of the soil samples, and then indicator plants were founded. Statistical relations were established between Li, Sr values of soil samples and plant species (twigs of *G. aucheri* (n=18, r=0.6214), *J. oxicedrus* (n=24 r=0.7267 and leaves of *J. oxicedrus* (n=20, r=0.8293), *P. nigra* (n=19, r=0.6655) for Li, twigs of *P. nigra* (n=16, r=0.8567) and leaves of *J. oxicedrus* (n=16, r=0.6824), E. *hirsuta* (n=14, r=0.7511) for Sr. Furthermore, correlation analyses were made for determining the inter-elemental relationships between soil (for B, Sr, Li, Cu, Zn, Mn, Co and Ni) and indicator plants. Therefore *G. aucheri E. hirsuta, J. oxicedrus* and *P. nigra* are good indicators of the Li and Sr concentrations in the soil and these species could be successfully used in biogeochemical prospecting, patfinder plants for borat mining and environmental monitoring.

Geological features of Kışla dome structure in South of Isparta and its tectonic evolution, SW Turkey

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Geographic structure named as Isparta Angle in SW Turkey is generated by the folding of carbonate axis in terms of opposite “v” forming Western Taurides in the northern part of the Antalya Gulf. The Mesozoic rocks in the western part of the Isparta Angle form the Beydağları Platform. Besides, the Akseki-Anamas Carbonate Platform forms the eastern side of the Isparta Angle. The rocks in the southern part of the Isparta Angle and in environment of Antalya are composed of allochthonous ophiolithic components and can be considered as Antalya Nappe. On the other side, the allochthonous rocks as Lycian Nappes with ophiolithic components overlie the western part of the Isparta Angle. Moreover, the allochthonous rocks known as Beyşehir-Hoyran and Bozkır Nappes overthrust the eastern part of the Isparta Angle and form the most important nappe system in the area.

Satellite imageries of the area located 20 km south of Isparta indicate a circular dome structure around Kışla. This dome structure has been generated within the Isparta Çayı Formation and the overlying marine clastic series in Antalya Nappes. The radius of this circular dome structure reaches up to 10 km approximately. Two and three dimensional satellite imageries of the study area, the map of tectonic lineaments and the map of surface temperatures prepared using thermal band of satellite imageries (Landsat ETM+) support the existence of a dome structure in the study area.

The rocks in the investigated area can be divided into two groups within a geological map of scale in 1:25000: (i) autochthonous-paraautochthonous and (ii) allochthonous rocks. The autochthonous-paraautochthonous rocks in the area consist of Davraz Formation (Early-Late Jurassic carbonate rocks), Beydağları Formation (Early-Late Cretaceous carbonate rocks), Yazır Limestone (Aquitanian reef limestone) and Ağlasun Formation (Burdigalian flysch). The allochthonous rocks in the region are composed of rock components forming