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First record of western Tethyan and Indo-Pacific larger Foraminifera co-occurring in the Burdigalian of Turkey

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A revision of (lower) Burdigalian larger foraminiferal assemblages, based on the biometric study of the miogypsinids (the genera *Miogypsina* and *Miolepidocyclina*), lepidocyclinids (the genera *Nephrolepidina* and *Eulepidina*) and nummulitids (the genus *Cycloclypeus*), from Turkey gives new insights on their taxonomy and paleobiogeography in the Tethys. The Burdigalian assemblages in the lower part of a transgressive shallow-marine succession in eastern Turkey (Muş Basin) near Adilcevaz include the specimens of the genera, *Cycloclypeus* Carpenter 1856 and *Eulepidina* H. Douvillé 1911, occurring only in the early Miocene deposits of SE Asia and Australia and not been recorded from the equivalent deposits in the western Tethyan, and the specimens of 'ribbed' primitive *Nephrolepidina*, with their only known occurrence in the Miocene of the same region. The species designation of these taxa, especially of *Eulepidina*, in the absence of well-demonstrated comparable biometric and conflicting stratigraphic distribution data from Indo-Pacific, is usually problematic. These groups are accompanied with *Miolepidocyclina* Gümbel 1870, a biometrically well-documented side line of the main *Miogypsina* lineage in the European-Mediterranean region, and *Miogypsina globulina*, a common species for both provinces. This provides the first evidence suggesting a main westward migration of some important groups of larger foraminifera from SE Asia to the eastern Mediterranean during (early) Burdigalian. The evidence for the proposed migration and its westerly extension is also supplemented by the data demonstrating the existence of *Eulepidina* in Burdi-

galian deposits located further to the west of this locality, in the Sivas Basin (central Turkey) and in the Taurides (SW Turkey). This faunal incursion, seemingly to be the most significant one when compared to other late Oligocene-early Miocene foraminiferal events in Turkey, may be the result of extreme narrowing of Tethyan shelves extending between both regions prior to the collision of Europe with African plate. Our data show the necessity for the revision of larger foraminifera especially further east in Iran and Pakistan for a better understanding of foraminiferal events during the early Miocene.