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The late Eocene evolution of nummulitid foraminifer *Spiroclypeus* in the Western Tethys

György Less and Ercan Özcan
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Megalospheric forms of Priabonian *Spiroclypeus* of the Western Tethys were morphometrically investigated. Based on the reduction of the average number of undivided, post–embryonic chambers, the investigated populations are grouped into two successive, phylogenetically linked species, *S. sirottii* sp. nov. and *S. carpaticus*. The evolution is also demonstrated by the increase of the number of secondary chamberlets in particular chambers, by the increase of the diameter of the first two whorls and by that of the size of the proloculus, although the latter turned out to be also ecologically controlled. This evolution is supported by the stratigraphic succession of populations in the Mossano section (N Italy) and by the change of accompanying fossils. Lacking in upper Bartonian beds, the first appearance of genus *Spiroclypeus* seems to be synchronous with the beginning of the late Eocene. The newly described *S. sirottii* is associated with *Heterostegina reticulata mossanensis* and orthophragmines containing forms of middle Eocene acme, both marking the lower part of the Priabonian. Meanwhile *S. carpaticus* co–occurs with *H. gracili*s and/or with orthophragmines characteristic of the upper part of the Priabonian. We suppose that the *Spiroclypeus sirottii–carpaticus* lineage is restricted to the Priabonian. Thus, *Spiroclypeus sirottii* is a zonal marker for the Shallow Benthic Zone (SBZ) 19 (early Priabonian) while *S. carpaticus* indicates the SBZ 20 (late Priabonian).

Key words: Foraminifera, Nummulitidae, *Spiroclypeus*, biometry, evolution, stratigraphy, Eocene

György Less [foldlgy@uni–miskolc.hu], University of Miskolc, Department of Geology and Mineral Resources, H–3515, Miskolc–Egyetemváros, Hungary; Ercan Özcan [ozcanerc@itu.edu.tr], Department of Geology, Faculty of Mines, Istanbul Technical University, Ayazaga/Istanbul 34469, Turkey.

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