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The first calibration of radiolarian biochronology with Late Cretaceous (latest Coniacian–Santonian to early Campanian) planktonic foraminifera in the volcano-sedimentary sequences of the Eastern Pontides, NE Turkey

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**The first calibration of radiolarian biochronology with Late Cretaceous (latest Coniacian–Santonian to early Campanian) planktonic foraminifera in the volcano-sedimentary sequences of the Eastern Pontides, NE Turkey**

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**Abstract**

In the Eastern Pontides (NE Turkey), one of the few and most substantial biochronologic calibration studies in the world was performed on radiolarians associated with planktonic foraminifera in four measured stratigraphic sections, including the Upper Cretaceous rocks of two different tectonic units (the northern part of the Hopa–Borçka Zone and the Aksu Unit of the Olur–Tortum Zone). Furthermore, the dating of volcanism through volcanic and pyroclastic rock units in contact with fossiliferous rocks was executed. Santonian radiolarian taxa, latest Coniacian–Santonian and late Santonian planktonic foraminifer taxa were obtained from bioclastic wackestones and packstones in association with basalt sills and basaltic hyaloclastites in the Küçükdere-1 and Küçükdere-2 sections of the Çağlayan Formation around Trabzon. Early Campanian radiolarians and planktonic foraminifera were obtained from cherts interbedded with rhyolitic pyroclastic rocks in the Koyuncular section of Çayırbağ Formation near Artvin and bioclastic wackestones in the Aksu section of the Aksu Formation around Erzurum. The biozones *Dicarinella asymetrica* (uppermost Coniacian–Santonian) and *Globotruncanita elevata* (lower Campanian) for planktonic foraminifera, and

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