

Tephrostratigraphy and provenance of the Miura- and Boso-Peninsulas, Japan

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In central Japan a collision zone of two subduction systems, the Honshu arc on Japanese mainland and the Izu-Bonin-Mariana arc (IBM), results in parallel volcanoclastic belts with different ages [1]. The interaction between these two subduction systems is still not fully understood and awaits proxies that partly or fully provides a tool to temporally and spatially evaluate their collision and volcanism. Numerous tephras and volcanoclastic sediments (>600 tephra packages), originated at these arcs, are incorporated in the accretionary complex on the Miura and Boso peninsulas. They provide a perfect, most complete tephrostratigraphic record for this region, going back to the middle Miocene. The sedimentary sequences on the Miura and Boso peninsulas are extraordinary well described. Tephra layers are used for correlation within these sequences [e.g. 2], even though the geochemical compositions of most of the tephra layers and volcanoclastic sediments are missing. However, these geochemical signatures of the tephras and volcanoclastic sediments play a key role to improve the knowledge about the interplay between these two subduction systems.

We present the first geochemical results of the Miura and Boso tephra record, which will be used to build up an tephrostratigraphic database for this region. Based on geochemical fingerprinting we present revisited and newly established tephra correlations. Further provenance analyses of the Miura and Boso tephras and volcanoclastic sediments, using their compositional variability, identify variable phases of increased volcanic activity at the Honshu or the IBM arc.

[1] Yamamoto, Y et al. (2009) *Island Arc* 18(3), 496-512. [2] Kazaoka et al. (2015) *Quat. Int.* 383, 116-135.