A new planktonic foraminifera species (Hantkenina gohrbandti nov. spec.) from the Middle Eocene of the northwestern Tethys (Mattsee, Austria)

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The planktonic foraminifer genus *Hantkenina* is characterized by planispiral coiling and hollow chamber extensions, called tubulospines. It evolved gradually from the genus *Clavigerinella*, which shows radial elongate, clavate or digitate chambers, but no tubulospines. This evolutionary trend and the transition from *Clavigerinella* to *Hantkenina* was demonstrated from the Austrian Holzhäusl section (Coxall et al., 2003) and from the Kilwa drill sites in Tanzania (Pearson et al., 2004). At both localities, a newly discovered species, which has been named *Hantkenina singanoae* by Coxall and Pearson (2006), was considered to be the missing link between the two genera. However, the chambers of this species are terminate in a distal hood (proto-tubulospine), and it appears unclear how, and unlikely that, straight tubulospines of the younger *Hantkenina* species could evolve from this bent feature.

Rögl & Egger (2010) reported on a newly discovered planktonic foraminifer, which is characterized by pointed chamber ends with a nub (proto-tubulospines) and in some cases by the first tubulospines appearing in a juvenile growth stage. This species forms the evolutionary link between the genera *Clavigerinella* and *Hantkenina* and is considered to be the real ancestor of the genus *Hantkenina*. For this species the name *Hantkenina gohrbandti* nov. spec. is introduced (Rögl & Egger, in press). The new species is named in honour of Klaus H. Gohrbandt (Gulf Breeze, Florida, USA; former employee of Rohöl-Aufsuchungs AG, Vienna) for his fundamental work on the Paleogene of the Helvetikum north of Salzburg.

References:

Coxall, H.K., Huber, B.T. and Pearson, P.N., 2003. Origin and morphology of the Eocene planktonic foraminifer Hantkenina. Journal of Foraminiferal Research, 33, 237-261.

Coxall, H.K. and Pearson, P.N., 2006. Taxonomy, biostratigraphy, and phylogeny of the Hantkeninidae (Clavigerinella, Hantkenina, and Cribrohantkenina). Cushman Foundation Special Publication, 41, 213-256.

Rögl, F. and Egger, H., 2010. The missing link in the evolutionary origin of the foraminiferal genus Hantkenina and the problem of the Lower/Middle Eocene boundary. Geology, 38, 23-26.