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Small mammal Biostratigraphy of the late Middle Miocene (Sarmatian) in South Germany

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With more than 200 hundred Miocene vertebrate localities, the North Alpine Foreland Basin (NAFB) contains one of the richest Miocene records for small mammals. Despite that, the fossil record for the late Middle Miocene is reduced. Founds in the fissure fillings of the Franconian Alb plateau, north of the NAFB, allow to precise the biostratigraphy for this period in South Germany in comparison with the Swiss part of the molasse basin.

The main results are:

- An immigration wave is documented in the Frankonian Alb plateau before the time of the fauna from the crater lake deposits of Steinheim (MN 7, c.a. 13.5 My b.p. Franconian Alb).
- The hamster *Collimys* is very useful to arrange the MN 7 localities (lineage *transversus* / *gudrunae* sp. nov.).
- The level of Anwil (MN 8) is found in the German part of the NAFB in Kleineisenbach and Giggenhausen.
- Due to the lack of the horse *Hippotherium*, which defines the base of Vallesian (Late Miocene), in Hammerschmiede, Hillenloh and Marktl, the correlation of these localities to MN 9 is mainly based on the occurrence of the rodent *Microtocricetus*. However, the possibility that these localities could be near the Middle to Late Miocene boundary cannot be excluded.

- The locality Marktl is proposed to be somewhat older than both other MN 9 localities.
- The lineage *Collimys hiri* sp. nov. / *longidens* / *dobosi* represents the first biostratigraphicaly useful evolutionary sequence for the time period around the Middle to Late Miocene transition in Central Europe. Hammerschmiede is older than the Swiss locality Nebelberweg which is about the same age as Hillenloh and Felsötarkany (Hungary).

The investigated localities are not in direct stratigraphical superposition and belong to various depositional systems (fissures, floodplain and lake sediments) which caused different taphonomical filters. Therefore, these biostratigraphical results have to be evaluated by other stratigraphical methods and further investigations.