

# The initial phase of the Early Sarmatian (Middle Miocene) transgression. Foraminiferal and ostracod assemblages from an incised valley fill in the Molasse Basin of Lower Austria.

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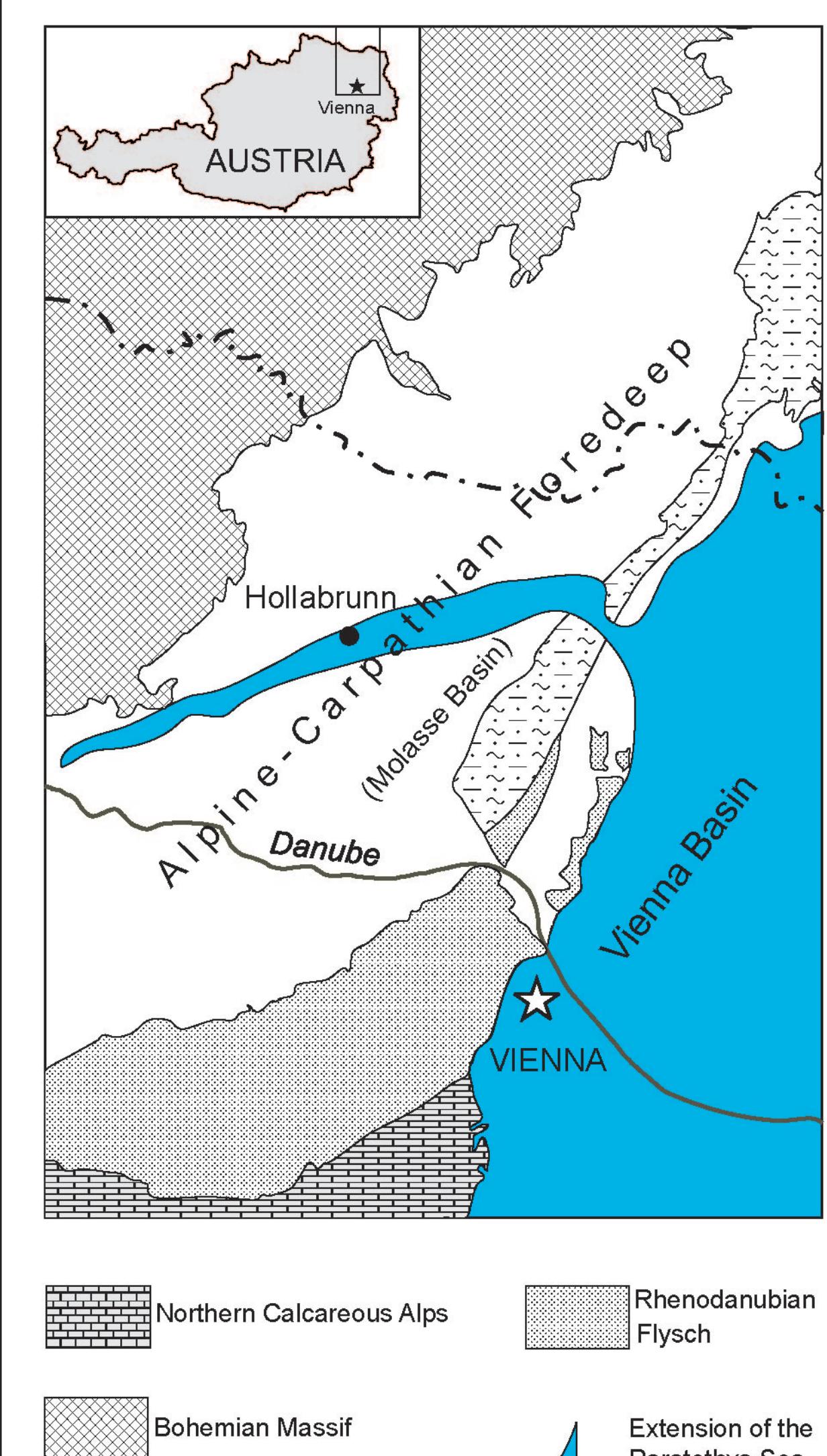
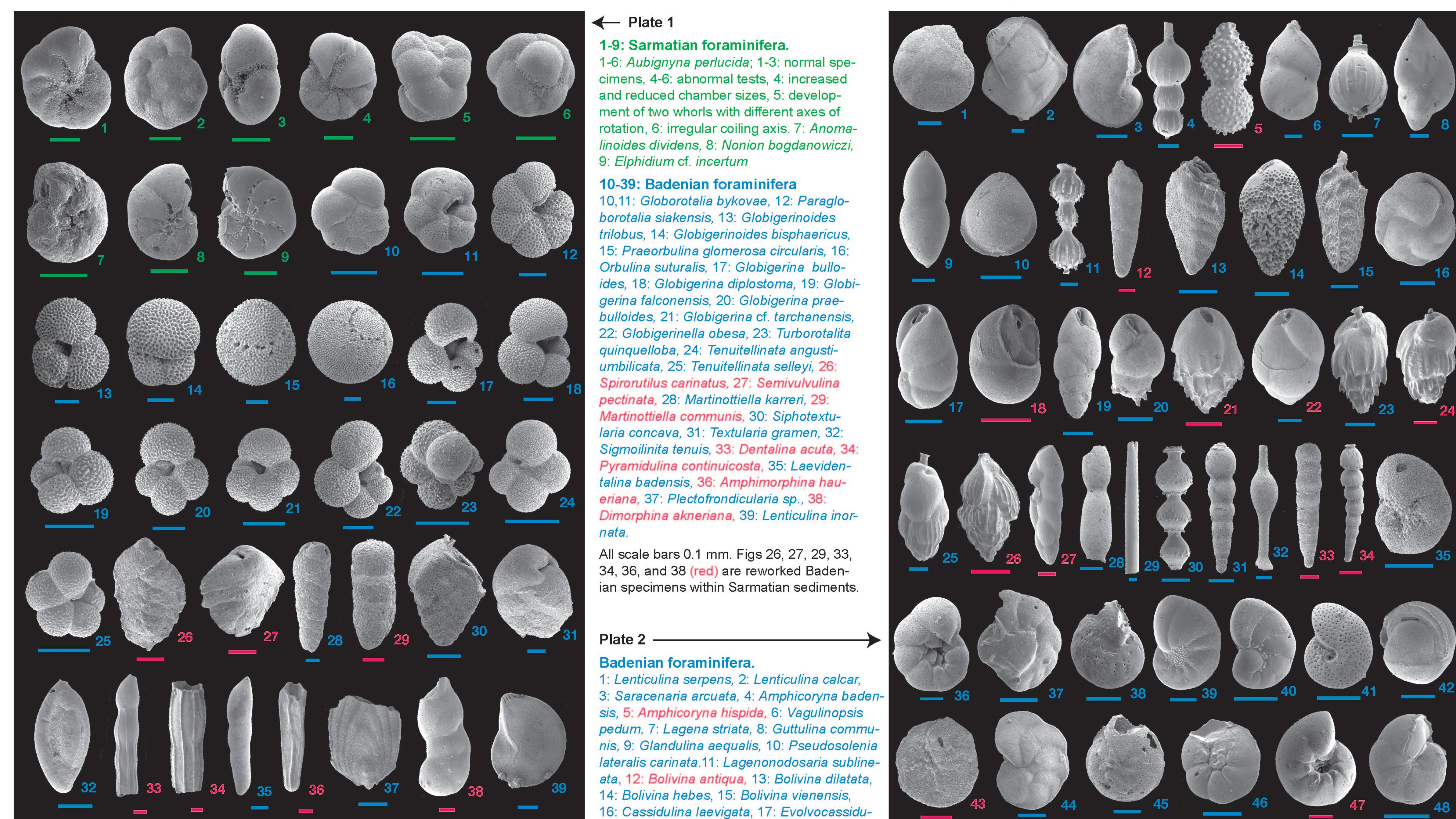


Figure 1: Simplified geological map of northeastern Austria and position of investigated site at Hollabrunn. White areas indicate Tertiary basinsediments outside the tectonic units shown in the legend (Molasse and Vienna Basins). Extension of the Paratethys Sea during Early Sarmatian according to Mandic et al. (2008).



← Plate 1  
1-9: Sarmatian foraminifera.  
1-6: *Aubignyna perlucida*; 1-3: normal specimens, 4-6: abnormal tests, 4: increased and reduced chamber sizes, 5: development of two whorls with different axes of rotation, 6: irregular coiling axis. 7: *Anomalinoides dividens*. 8: *Nonion bogdanowiczi*, 9: *Elphidium cf. incertum*

10-39: Badenian foraminifera  
10,11: *Globorotalia bykova*, 12: *Paragloborotalia siakensis*, 13: *Globigerinoides trilobus*, 14: *Globigerinoides isphaericus*, 15: *Praeorbulina glomerosa circularis*, 16: *Orbulina suturalis*, 17: *Globigerina bulloides*, 18: *Globigerina diplostoma*, 19: *Globigerina falconensis*, 20: *Globigerina praebulloides*, 21: *Globigerina obesa*, 23: *Turborotalita quinqueloba*, 24: *Tenuitellinata angusti-umbilicate*, 25: *Tenuitellinata selysi*, 26: *Spirorotalita carinatus*, 27: *Semivulvulina pectinata*, 28: *Martinottiella karreri*, 29: *Martinottiella communis*, 30: *Siphonotextularia concava*, 31: *Textularia graminea*, 32: *Sigmoilinella tenuis*, 33: *Dentalina acuta*, 34: *Pyramidalina continuicosta*, 35: *Laevidentalina badensis*, 36: *Amphicrinina haueriana*, 37: *Plectofrondicula sp.*, 38: *Dimorphina akmenaria*, 39: *Lenticulina inornata*.

All scale bars 0.1 mm. Figs 26, 27, 29, 33, 34, 36, and 38 (red) are reworked Badenian specimens within Sarmatian sediments.

Plate 2 →

Badenian foraminifera.  
1: *Lenticulina serpens*, 2: *Lenticulina calcar*, 3: *Saracenaria arcuata*, 4: *Amphicryna badensis*, 5: *Amphicryna hispida*, 6: *Vegulinopsis pedum*, 7: *Lagenaria striata*, 8: *Guttulina communis*, 9: *Glandulina equestris*, 10: *Pseudosolenia lateralis carinata*, 11: *Legenonodosaria sublineata*, 12: *Bolivina antiqua*, 13: *Bolivina dilatata*, 14: *Bolivina hebes*, 15: *Bolivina viennensis*, 16: *Cassidulina laevigata*, 17: *Evolvocassidulina cf. brevis*, 18: *Globocassidulina oblonga*, 19: *Caucasina elongata*, 20: *Caucasina subulata*, 21: *Bulimina striata*, 22: *Globobulimina pupoides*, 23: *Uvigerina grilli*, 24: *Uvigerina macrocarinata*, 25: *Uvigerina semiorbicularis*, 26: *Angulogerina angulosa*, 27: *Furcinerina acuta*, 28: *Neugebirina irregularis*, 29: *Neugebirina longispira*, 30: *Stilostomella adolphina*, 31: *Siphonodosaria consobrina*, 32: *Siphonodosaria pyrula*, 33: *Myllostomella advena*, 34: *Myllostomella recta*, 35: *Baggina cf. arenaria*, 36: *Valvularia complanata*, 37: *Cibicidoides pachyderma*, 38: *Cibicidoides ungrierianus*, 39: *Nonion communis*, 40: *Nonionoides karaganicus*, 41: *Melonis pomphiloides*, 42: *Pullenia bulboides*, 43: *Asterigerinata planorbis*, 44: *Hanzawaia boueana*, 45: *Heteropelta dutemplei*, 46: *Gavelinopsis praegeri*, 47: *Gyroidinoides soldanii*, 48: *Gyroidinoides umboatus*.

All scale bars 0.1 mm. Figs 5, 12, 18, 21, 22, 24, 26, 27, 33, 34, 43, and 47 (red) are reworked Badenian specimens within Sarmatian sediments.

