Supplementary material	Sauer, D., Kadereit, A., Kühn, P., Kösel, M., Miller, Ch.E., Shinonaga, T., Kreutzer, S., Hermann, L., Fleck, W., Starkovich B.M., Stahr, K., 2016. *The loess-palaeosol sequence of Datthausen, SW Germany*. Catena.

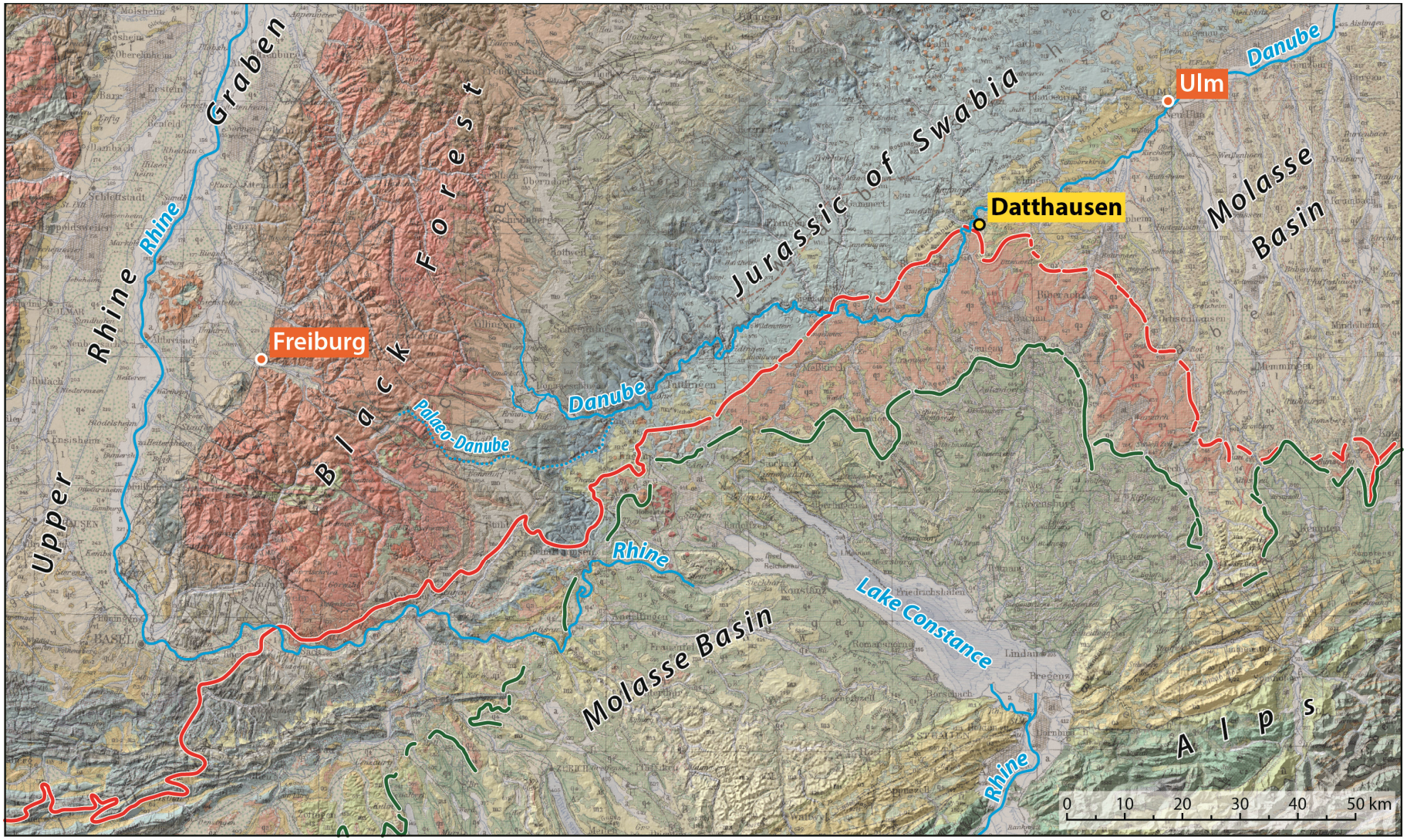
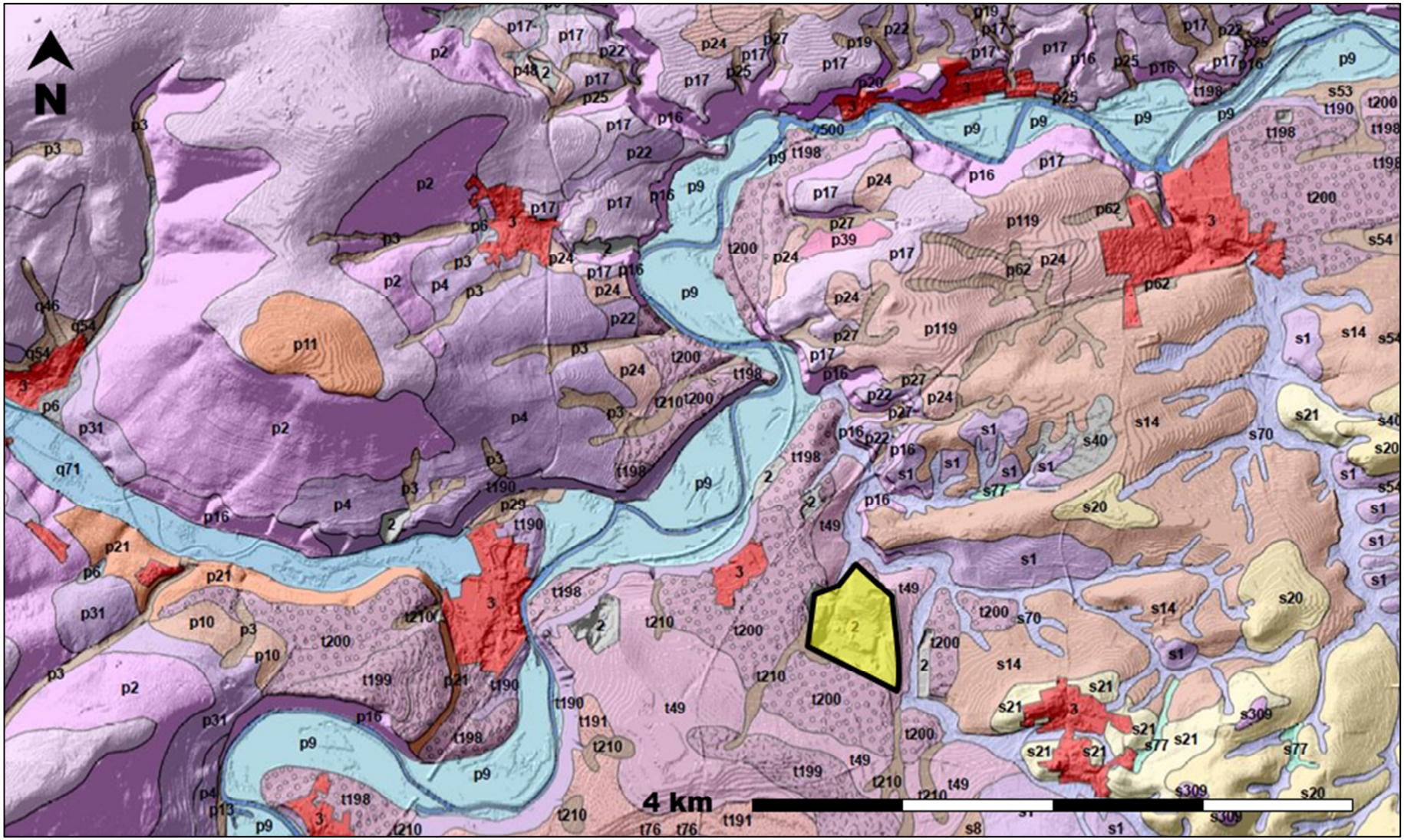


Fig. S-1.1. Wider geological setting of the profile Datthausen. Based on the geological map of SW Germany, scale 1:600000, by Weidenbach and Vollrath (1954). Major structural units from west to east: Quaternary deposits (pale beige colours) of the Upper Rhine Graben; granitic basement (reddish colours) of the Black Forest area; Upper Jurassic units (bluish colours) of the Jurassic of Swabia; Oligocene and Miocene deposits (yellowish colours) of the Molasse Basin; Cretaceous units (green colours) of the Alps. Ice flow of the Alpine outlet glaciers occurred in a northward direction from the Alps (to the south of the map section) into the Molasse Basin. Reddish shaded areas correspond to areas of the Molasse Basin covered by glacial and glacio-fluvial sediments of the penultimate-glacial period (Rissian), greenish shaded areas covered by glacial and glacio-fluvial sediments of the last-glacial period (Würmian). Most advanced positions of terminal moraines of last-glacial period (green lines) and penultimate-glacial period (red lines) highlighted. The profile Datthausen is located ca. 1.5 km north of the penultimate-glacial terminal moraine on top of corresponding penultimate-glacial glacio-fluvial deposits now forming a terrace of the Danube River, and ca. 20 km north of the last-glacial terminal moraine. Graphical processing and additions by Volker Schniepp.

Supplementary material	Sauer, D., Kadereit, A., Kühn, P., Kösel, M., Miller, Ch.E., Shinonaga, T., Kreutzer, S., Hermann, L., Fleck, W., Starkovich B.M., Stahr, K., 2016. *The loess-palaeosol sequence of Datthausen, SW Germany.* Catena.



2, 3, 500	Quarries / settlements / rivers
p1	Rendzic Leptosols on Tertiary freshwater limestone
p10	Cambisols on molasse
p11	Cambisols on Pliocene Danube gravel
p119	Luvisols on loess
p16	Rendzic Leptosols on slope debris
p17	Cambisols and Rendzic Leptosols on limestone
p19	Cambisols on colluvial deposits
p2	Rendzic Leptosols and Calcaric Leptosols on slope debris
p21	Chromic Cambisols on residual clay from limestone weathering
p22	Calcaric/Rendzic Leptosols on calcareous rock/limestone
p24	Luvisols and Cambisols on Pleistocene slope deposits
p25, p27, p3	Cambisols on colluvial deposits
p28	Luvisols on loess-rich Pleistocene periglacial slope deposits
p29	Leptosols (Colluvic) and Rendzic Leptosols on limestone debris
p31	Calcaric Regosols on Pleistocene periglacial slope deposits
p4	Calcaric Regosols on molasse
p48	Luvisols on Pleistocene slope deposits above molasse
p6	Calcareous colluvial deposits and Calcaric Gleysols
p62, p64	Cambisols on colluvial deposits
p9	Fluvisols and Fluvic Cambisols on alluvial deposits
q11, q15	Rendzic Leptosols on slope debris and limestone
q22	Calcaric Leptosols and Rendzic Leptosols on limestone
q23	Calcaric Regosols on Pleistocene slope deposits
q40	Chromic Cambisols on residual clay from limestone weathering
q46, q53	Cambisols on colluvial deposits
q54	Cambisols on colluvial deposits and Rendzic Leptosols on limestone debris
q71	Gleysols on alluvial loam
s1	Calcaric Leptosols on sandstone and siltstone
s14	Cambisols and eroded Luvisols on molasse
s20	Luvisols on freshwater molasse
s21	Alisols (Protospodic) on Pleistocene periglacial slope deposits
s309	Rendzic Leptosols on freshwater molasse
s40	Stagnosols on Pleistocene periglacial slope deposits
s54	Stagnic Cambisols on colluvial deposits above Pleistocene slope deposits
s70, s77	Gleysols on alluvial deposits
s8	Cambisols and Luvisols on freshwater molasse
t190	Calcaric Leptosols on fluvial gravel
t191	Luvisols on aeolian sand
t198	Luvisols on penultimate glacial terrace gravel
t199	Luvisols on penultimate glacial terminal moraine
t200	Luvisols on Pleistocene periglacial slope deposits
t210	Cambisols on colluvial deposits above Luvisols on loess
t49	Luvisols on loess and loess-rich Pleistocene slope deposits
t76	Cambisols on colluvial deposits

Figure source: Regierungspräsidium Freiburg – Dept. 9, State Authority for Geology, Mineral Resources and Mining, Freiburg i. Br., Germany.

Fig. S-1.2. Soil map of the area in the vicinity of the profile Datthausen (based on: Regierungspräsidium Freiburg, Landesamt für Geologie, Rohstoffe und Bergbau (ed.), 2015. Bodenkarte 1 : 50 000, Geodaten der Integrierten geowissenschaftlichen Landesaufnahme (GeoLa). http://www.lgrb-bw.de/produkte/bodenkunde [2015]).

The gravel quarry Datthausen is marked in yellow (no. 2). Under the present environmental conditions, Luvisols represent the dominating soils on loess and loess-rich slope deposits, as well as on glacial till and terrace gravel. Luvisols and Cambisols also prevail in the molasse area east of the Datthausen quarry, whereas the soil pattern in the Jurassic limestone area northwest of the quarry is dominated by Cambisols and Rendzic Leptosols. Most soils have not formed directly from the rock but from Pleistocene periglacial slope deposits, rock debris, and colluvial sediments that largely cover the slopes, both on limestone and molasse.

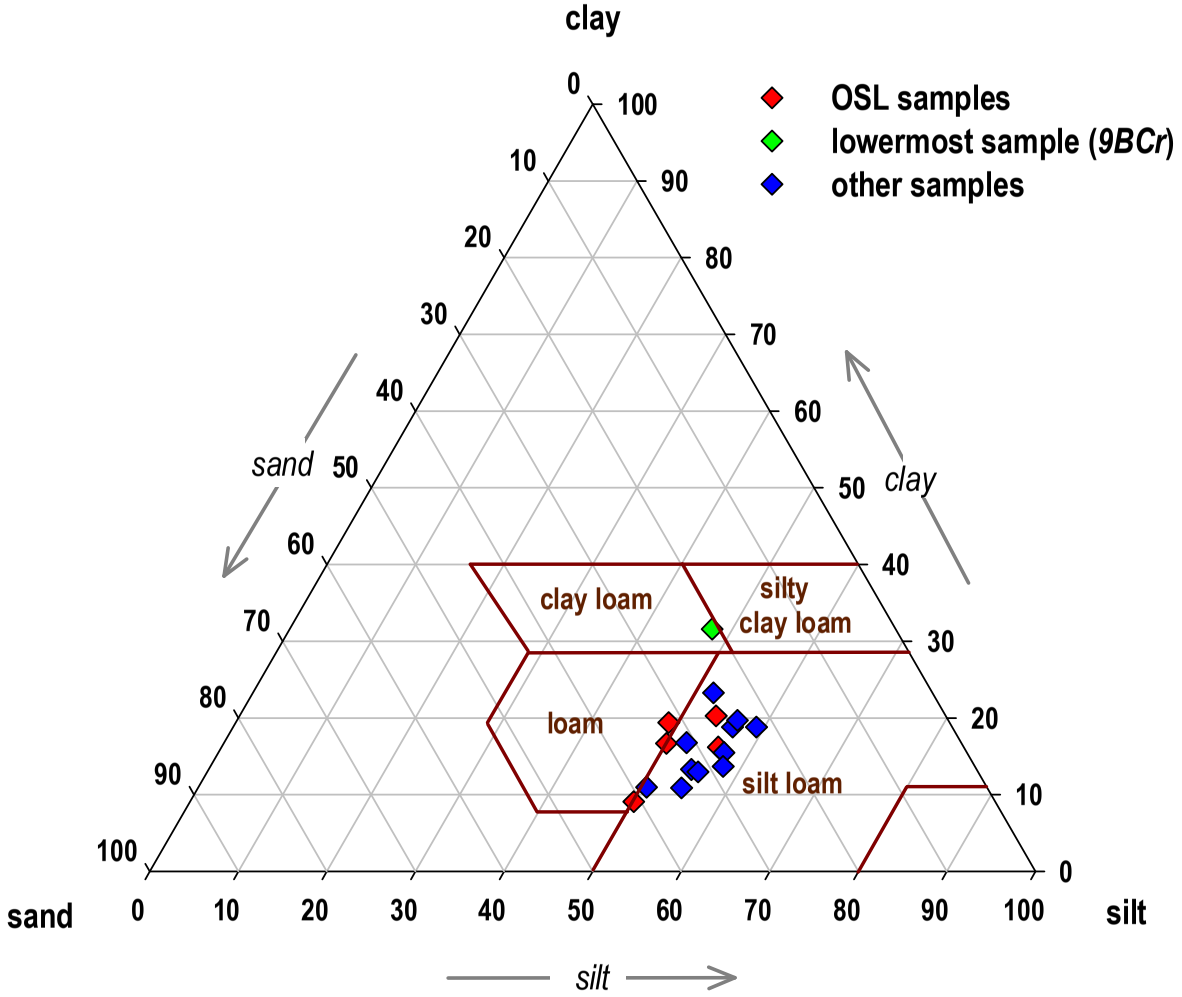


Fig. S-1.3. Texture of the fine-earth of the Datthausen samples.