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# State of knowledge of enchytraeid communities in German soils as a basis for biological soil quality assessment

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## Electronic supplement

In this electronic supplement, sampling sites and ecological profiles of the 37 most common enchytraeid species in Germany are compiled (basis: data from 133 German sites analysed in this study). Please note that these figures are missing for *F. lenta* (formerly *F. leidigy*) and that the respective information for *C. sphagnetorum* and *C. glandulosahas* have already been presented in the main text.

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## *Achaeta aberrans* Nielsen & Christensen, 1961

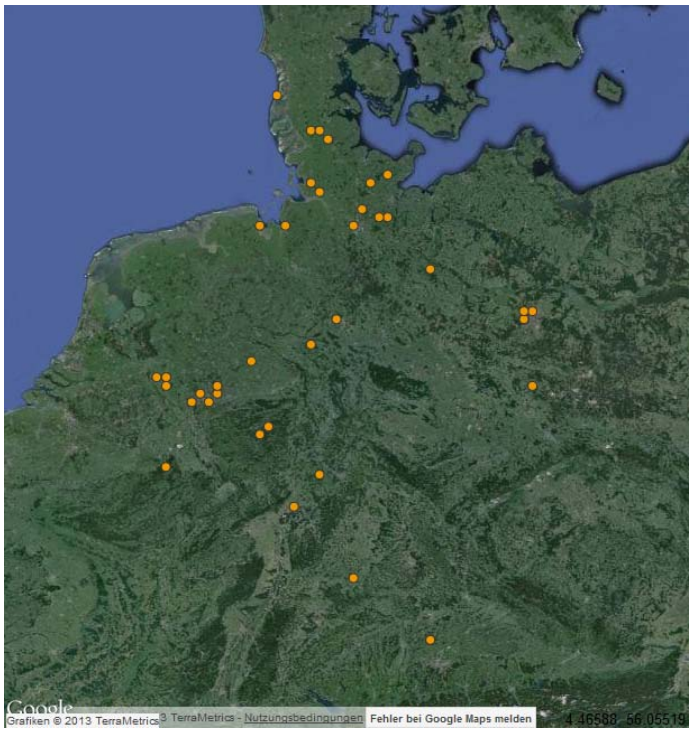
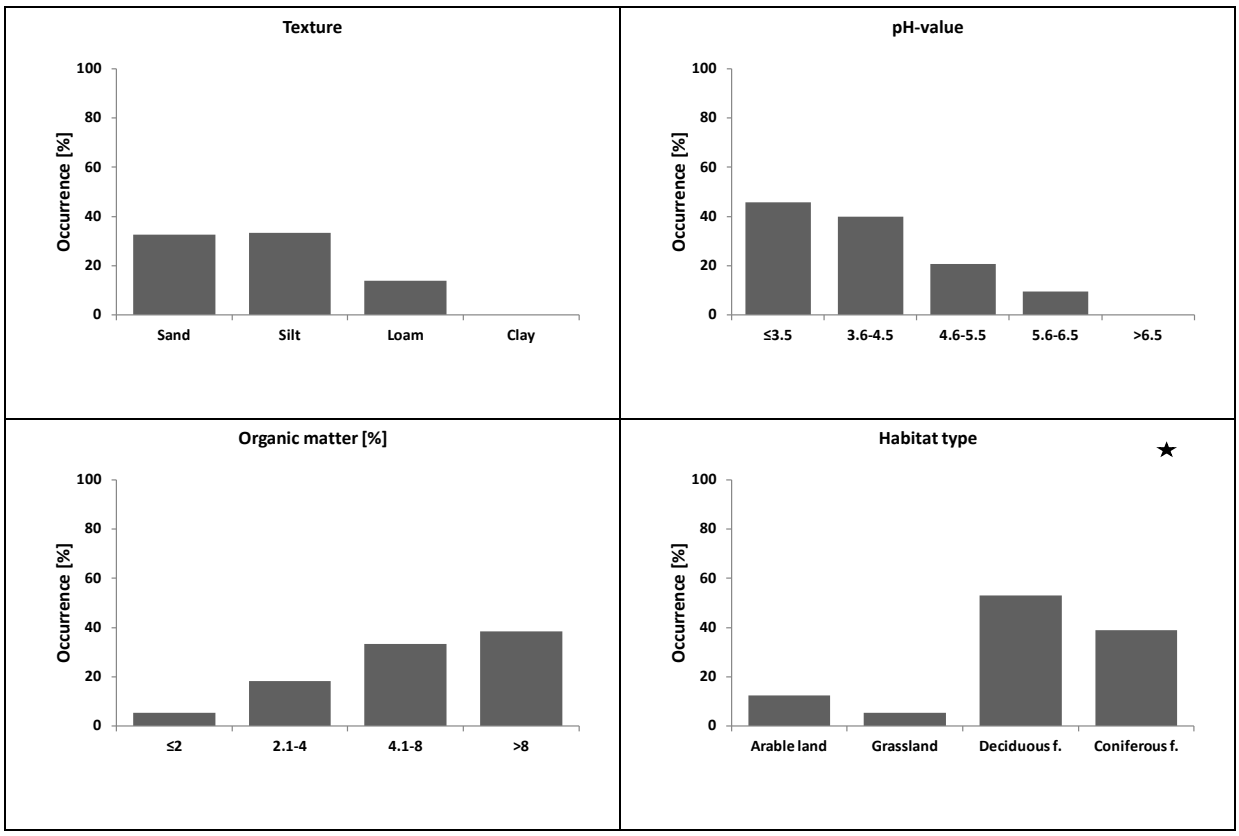



Fig. 1: Records of *A. aberrans* from the sites in Germany analysed in this study.

Fig. 2: Relative frequency of *A. aberrans* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1). Star: statistically significant difference ($Chi^2$-Test).



***Achaeta abulba*** Graefe, 1989

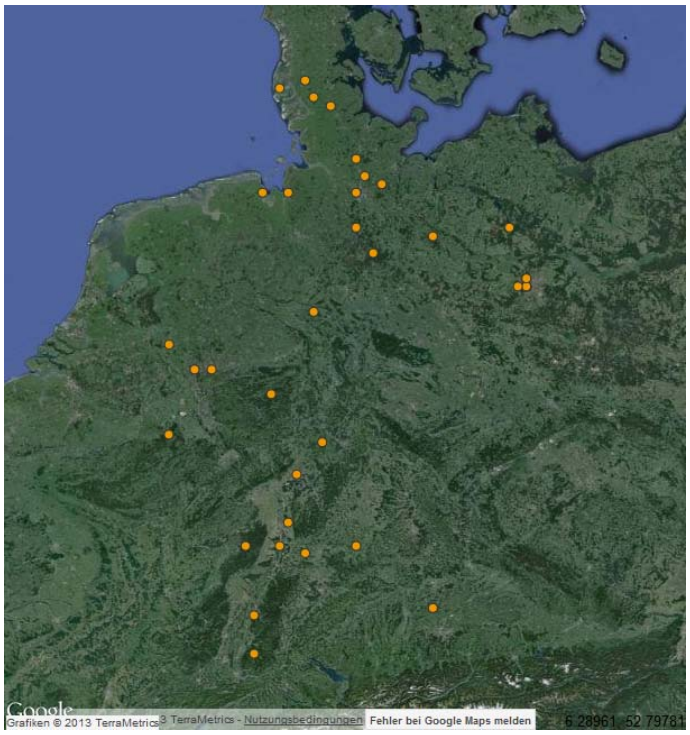
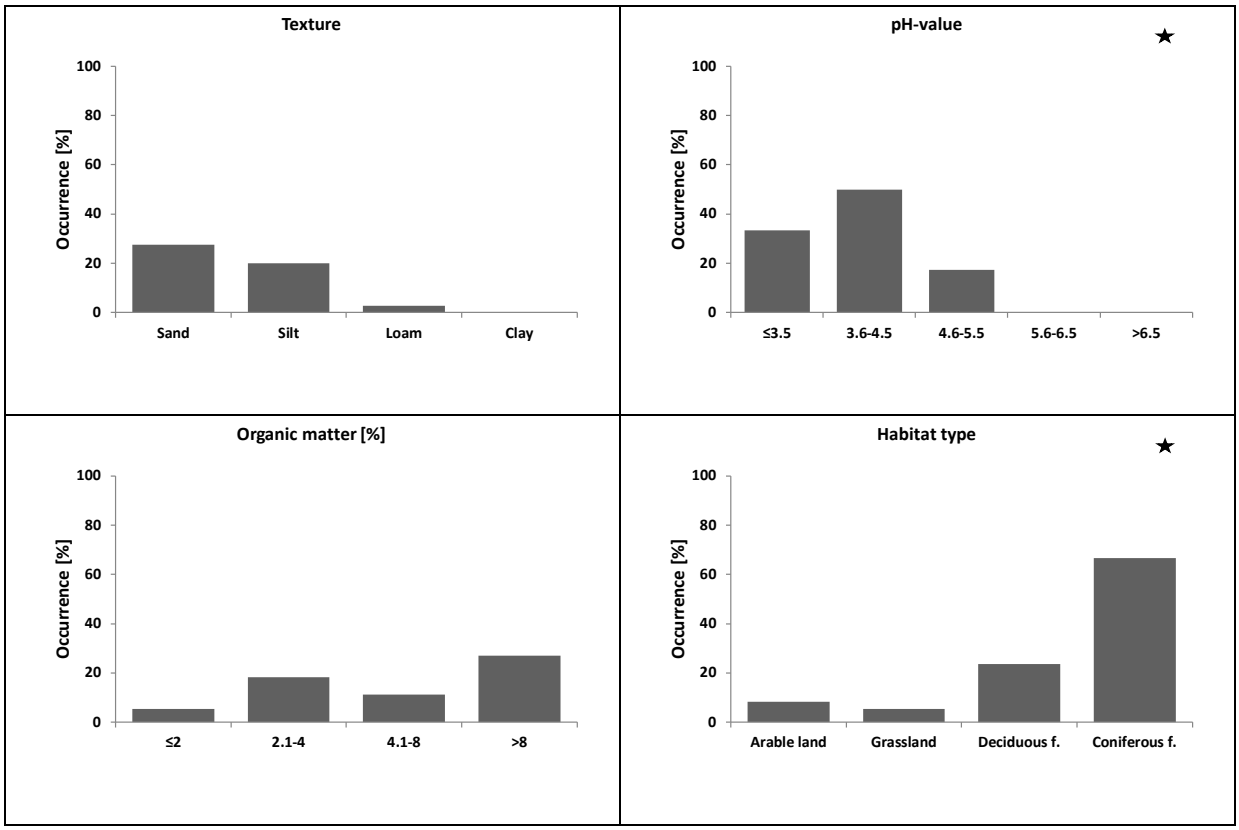



Fig. 3: Records of *A. Abulba* from the sites in Germany analysed in this study.

Fig. 4: Relative frequency of *A. abulba* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Achaeta affinis*** Nielsen & Christensen, 1959

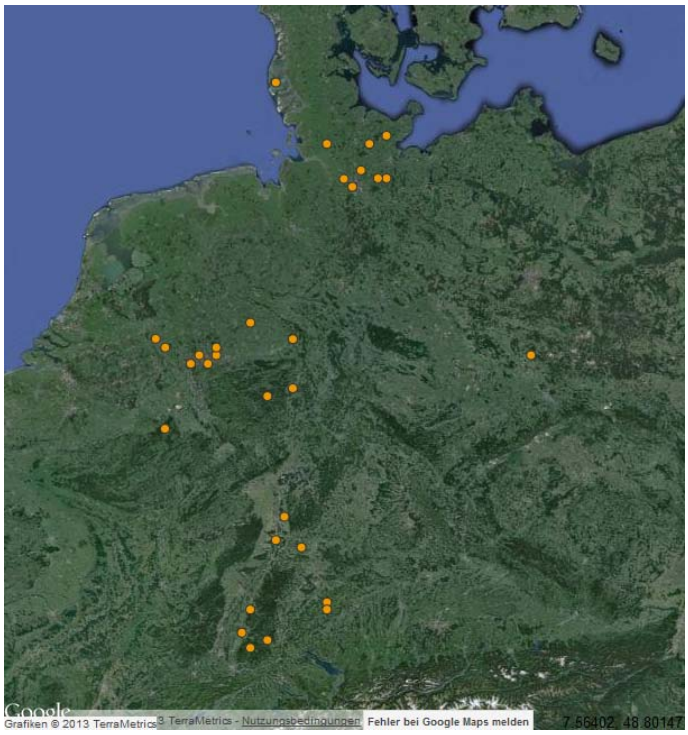
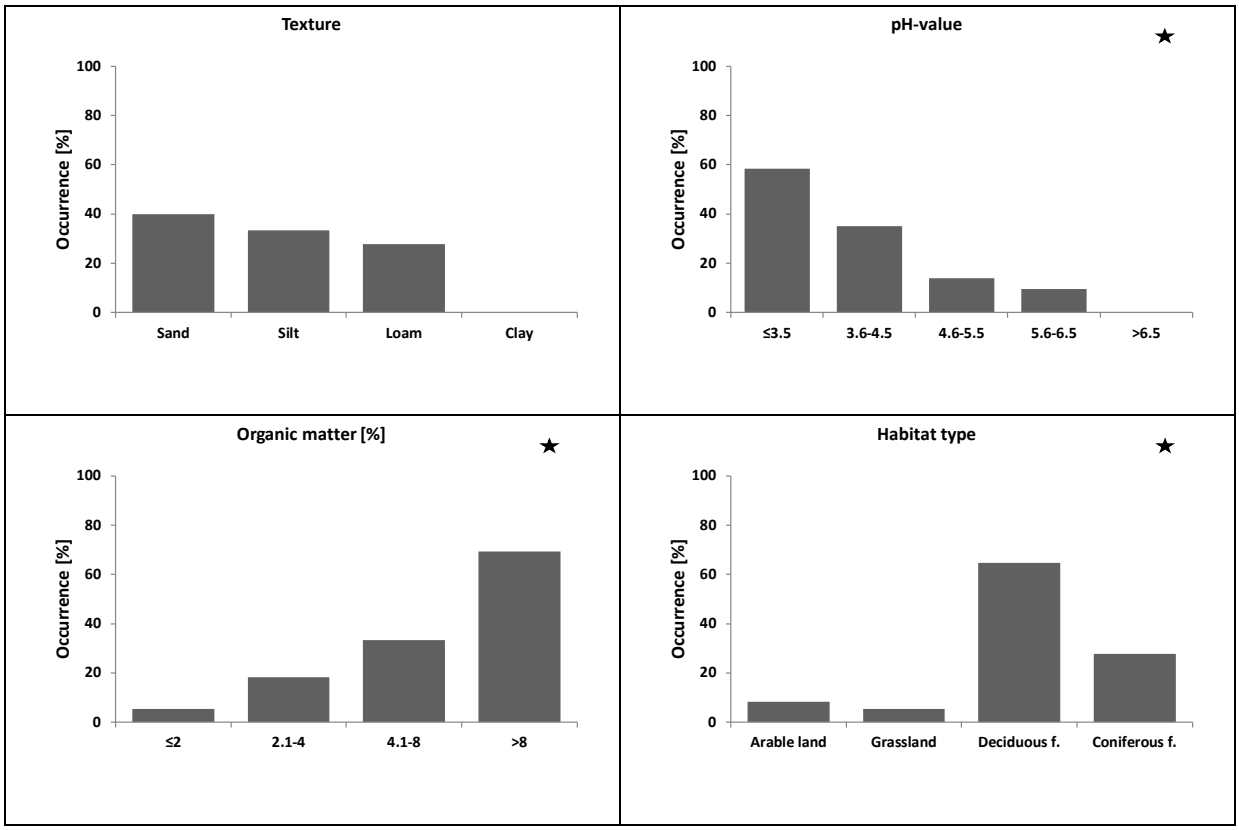



Fig. 5: Records of *A.affinis* from the sites in Germany analysed in this study.

Fig. 6: Relative frequency of *A. affinis* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Achaeta bibulba*** Graefe, 1989

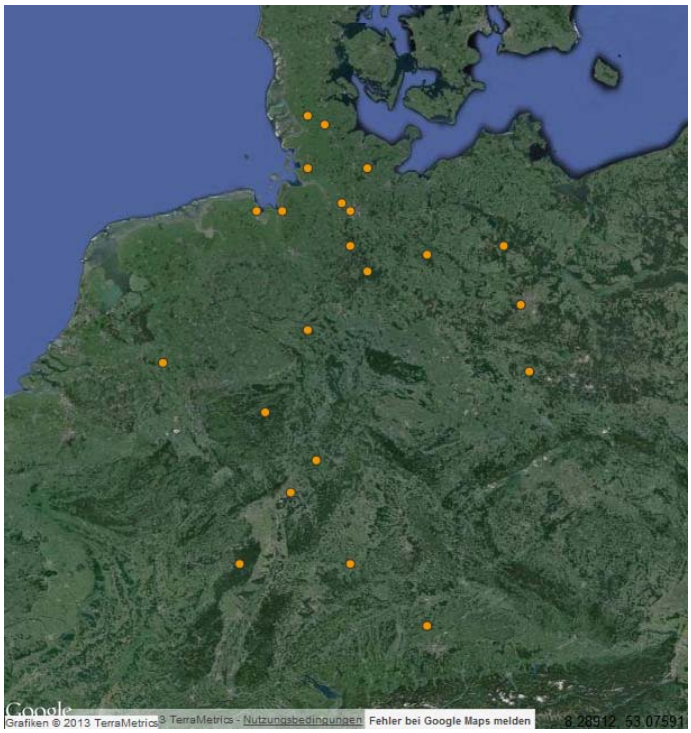
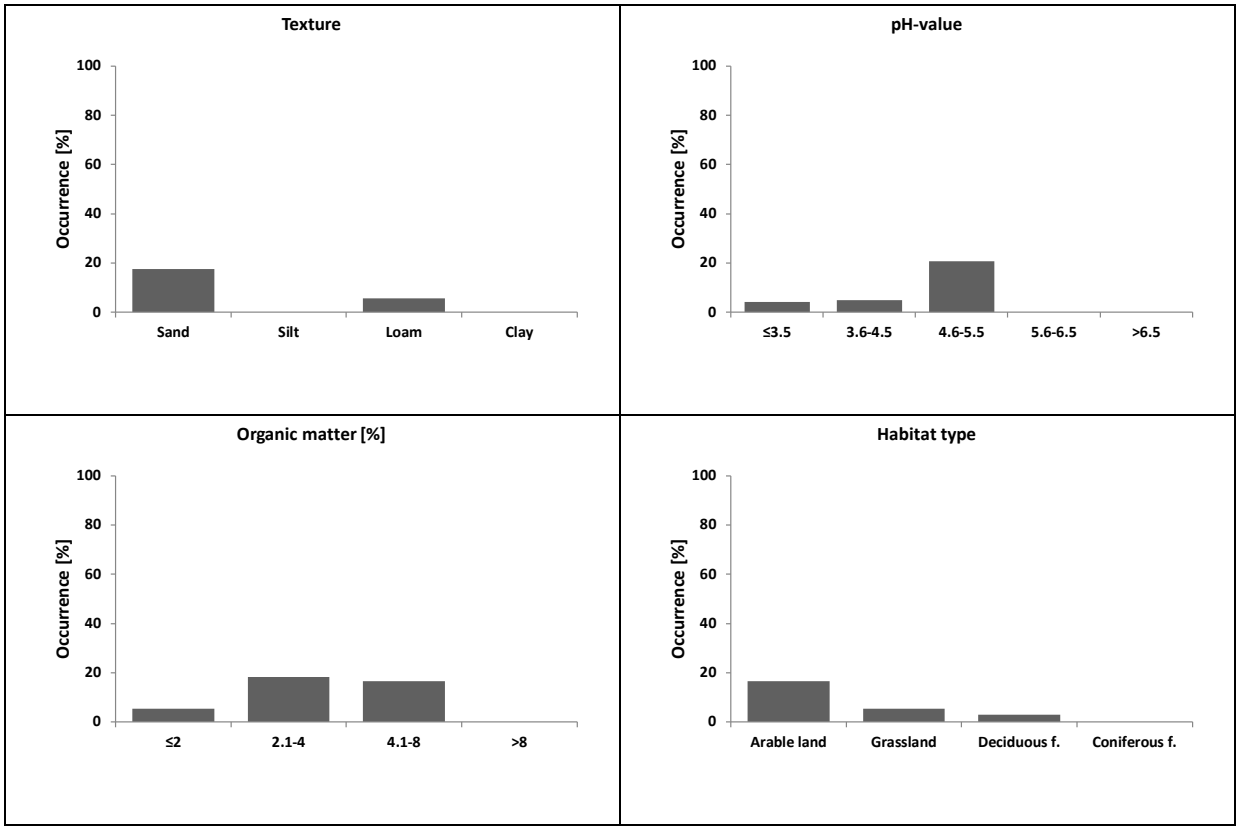



Fig. 7: Records of *A. bibulba* from the sites in Germany analysed in this study.

Fig. 8: Relative frequency of *A. bibulba* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Achaeta bohemica*** (Vejdovský, 1879)

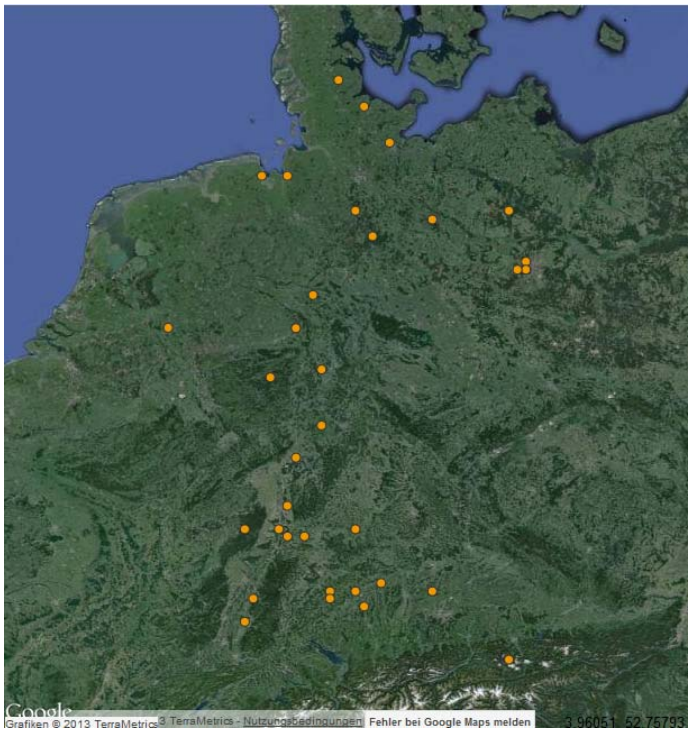
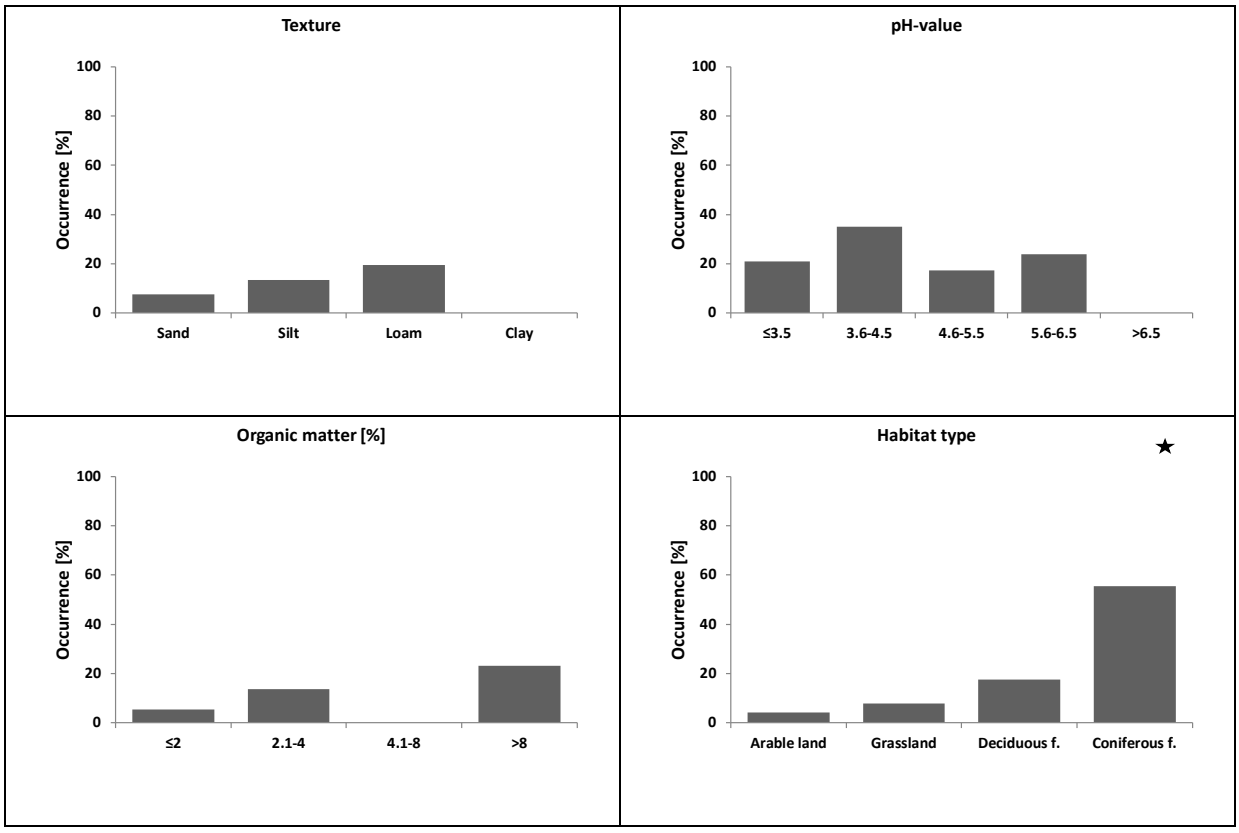



Fig. 9: Records of *A. bohemica* from the sites in Germany analysed in this study.

Fig. 10: Relative frequency of *A.bohemica* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Achaeta brevivasa*** Graefe, 1980

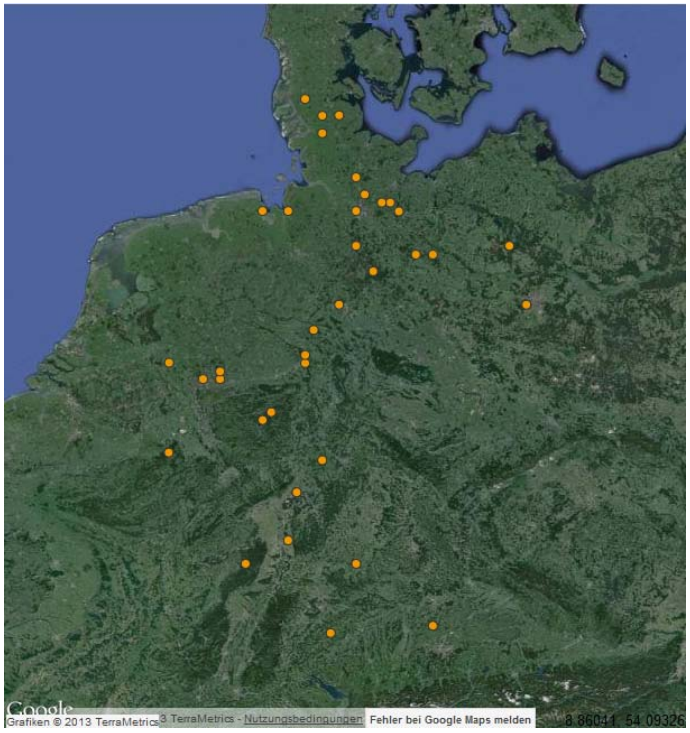
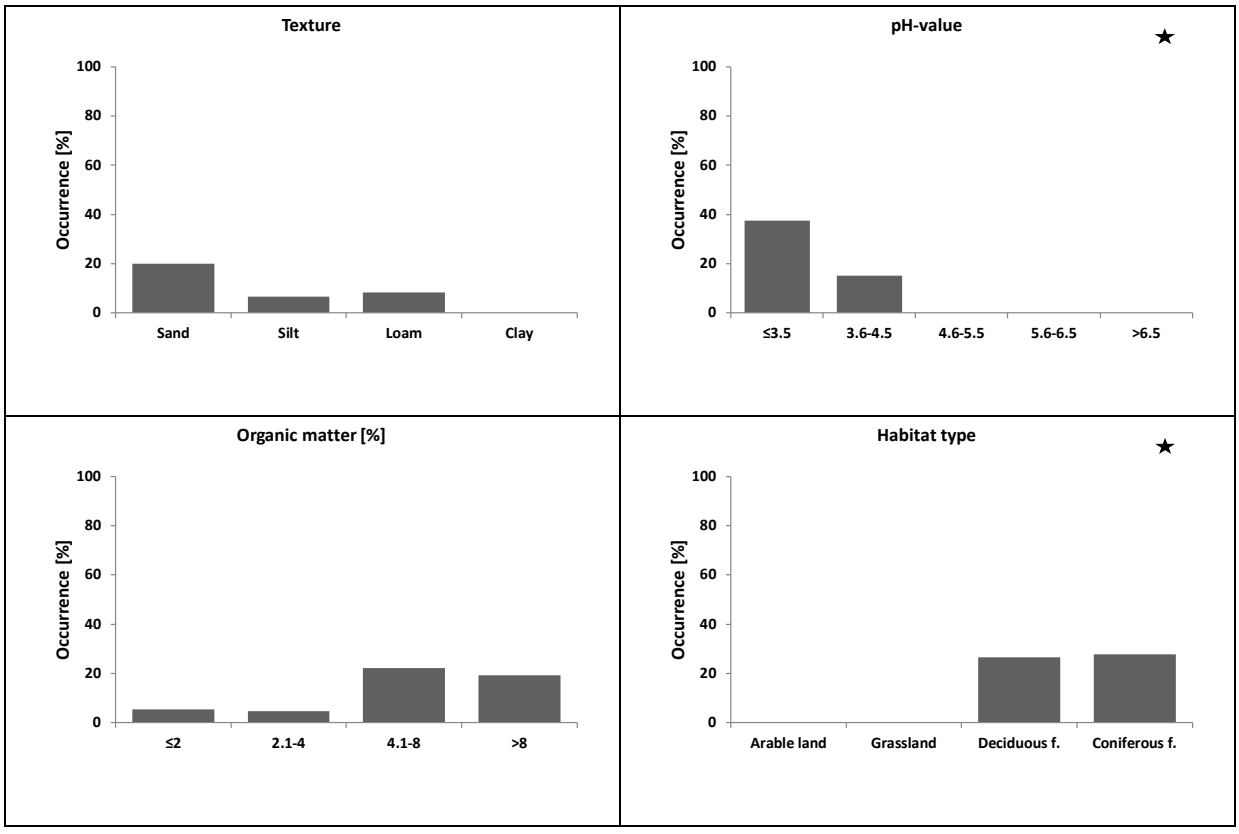



Fig. 11: Records of *A. brevivasa* from the sites in Germany analysed in this study.

Fig. 12: Relative frequency of *A. brevivasa* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Achaeta camerani*** (Cognetti, 1899)

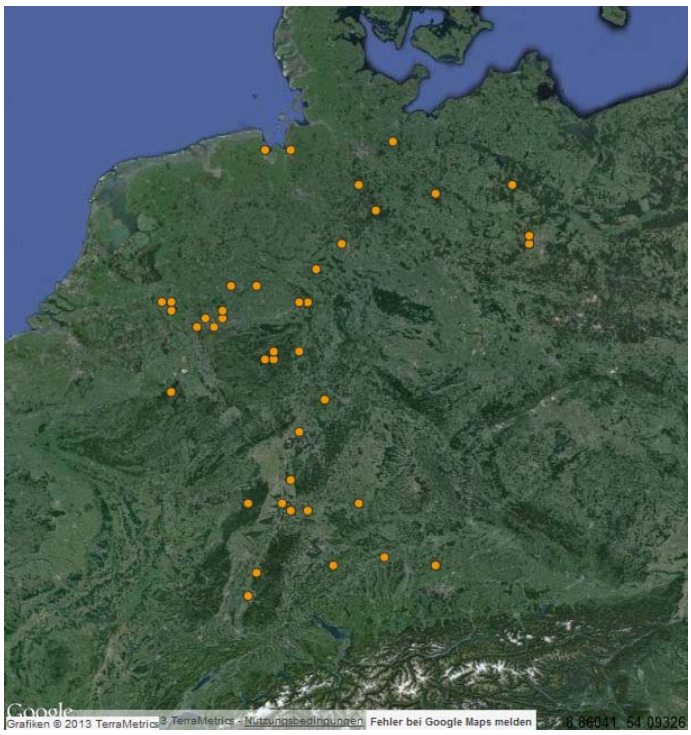
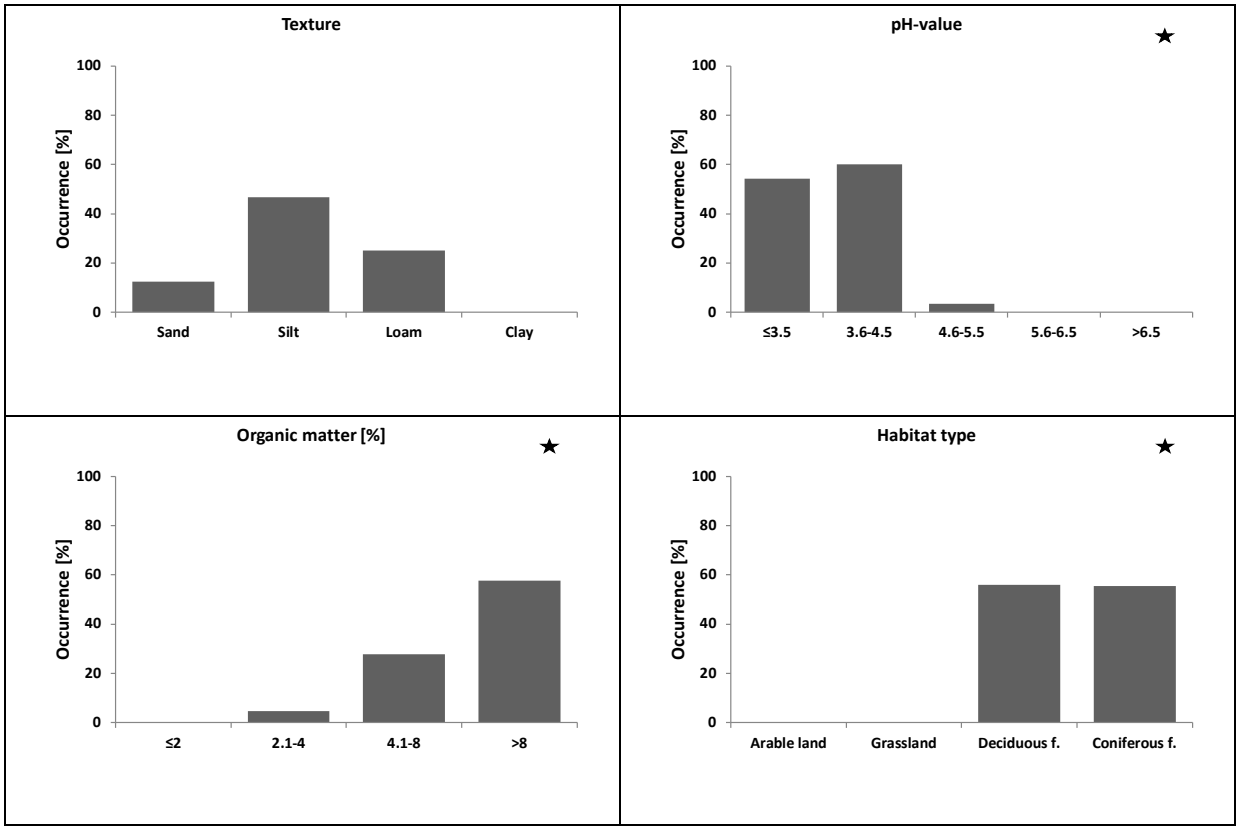



Fig. 13: Records of *A. camerani* from the sites in Germany analysed in this study.

Fig. 14: Relative frequency of *A.camerani* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Achaeta pannonica*** Graefe, 1989

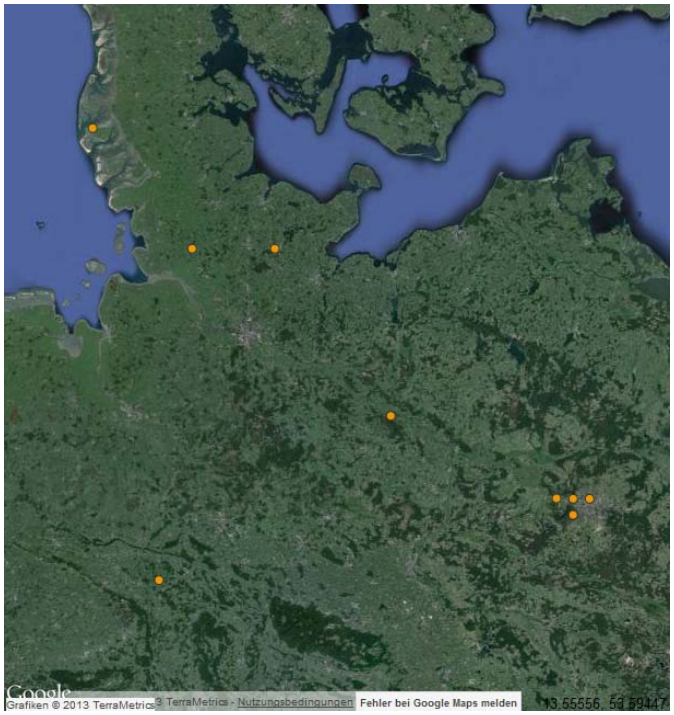
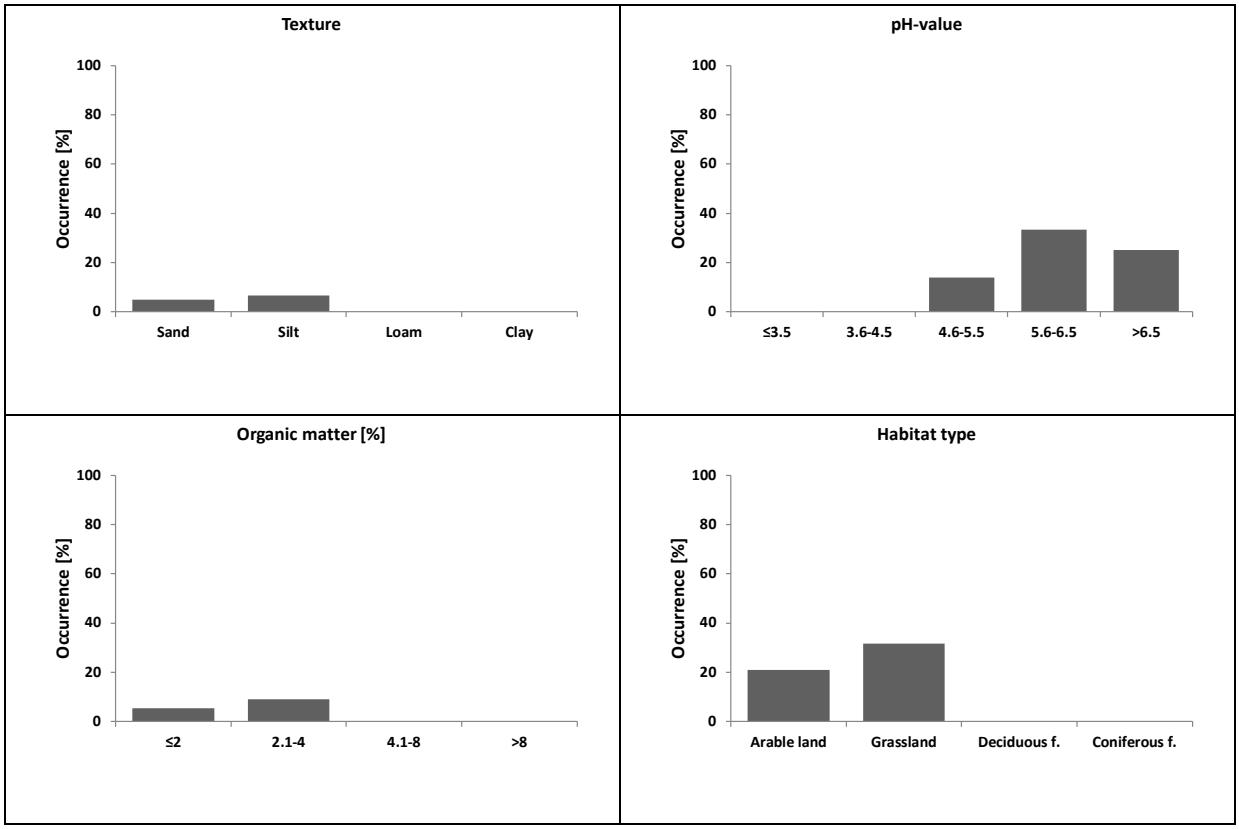



Fig. 15: Records of *A. pannonica* from the sites in Germany analysed in this study.

Fig. 16: Relative frequency of *A. pannonica* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Buchholzia appendiculata*** (Buchholz, 1862)

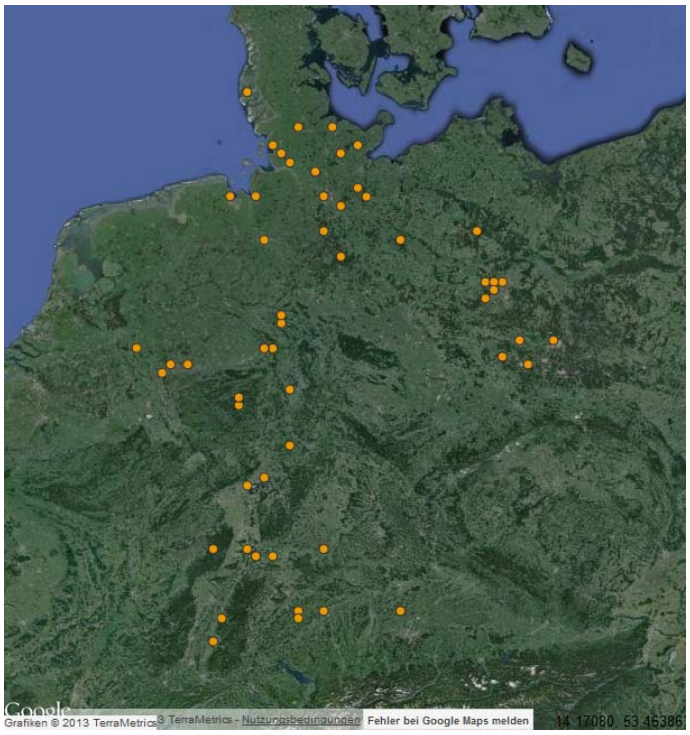
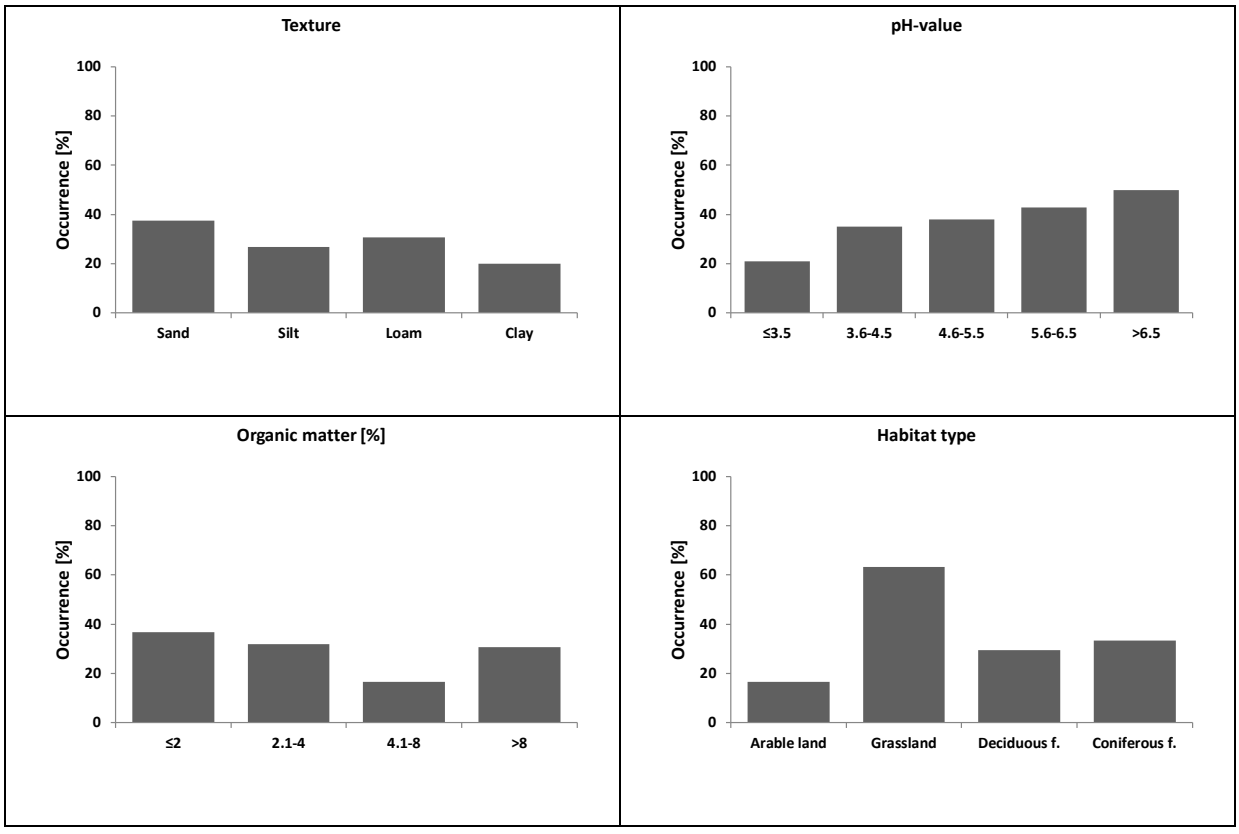



Fig. 17: Records of *B. appendiculata* from the sites in Germany analysed in this study.

Fig. 18: Relative frequency of *B. appendiculata* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Enchytraeus buchholzi*** Vejdovský, 1879

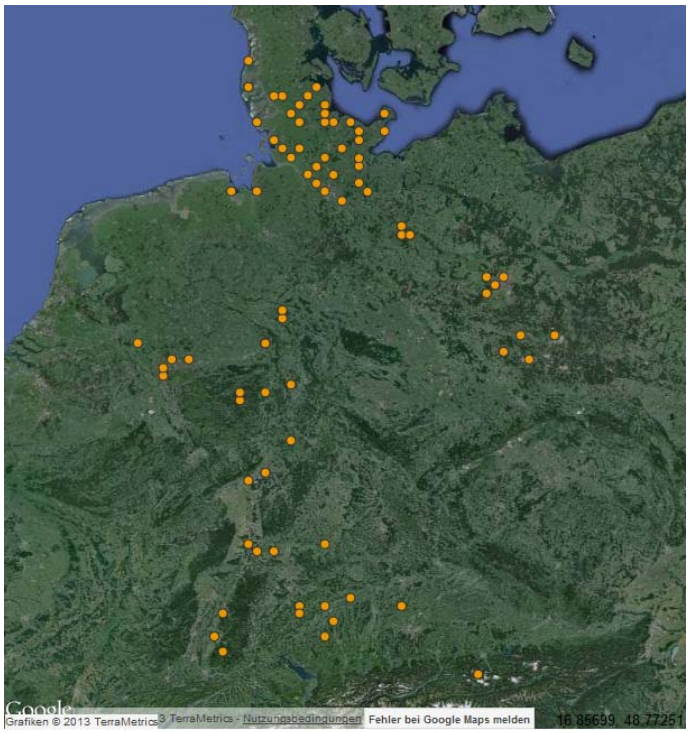
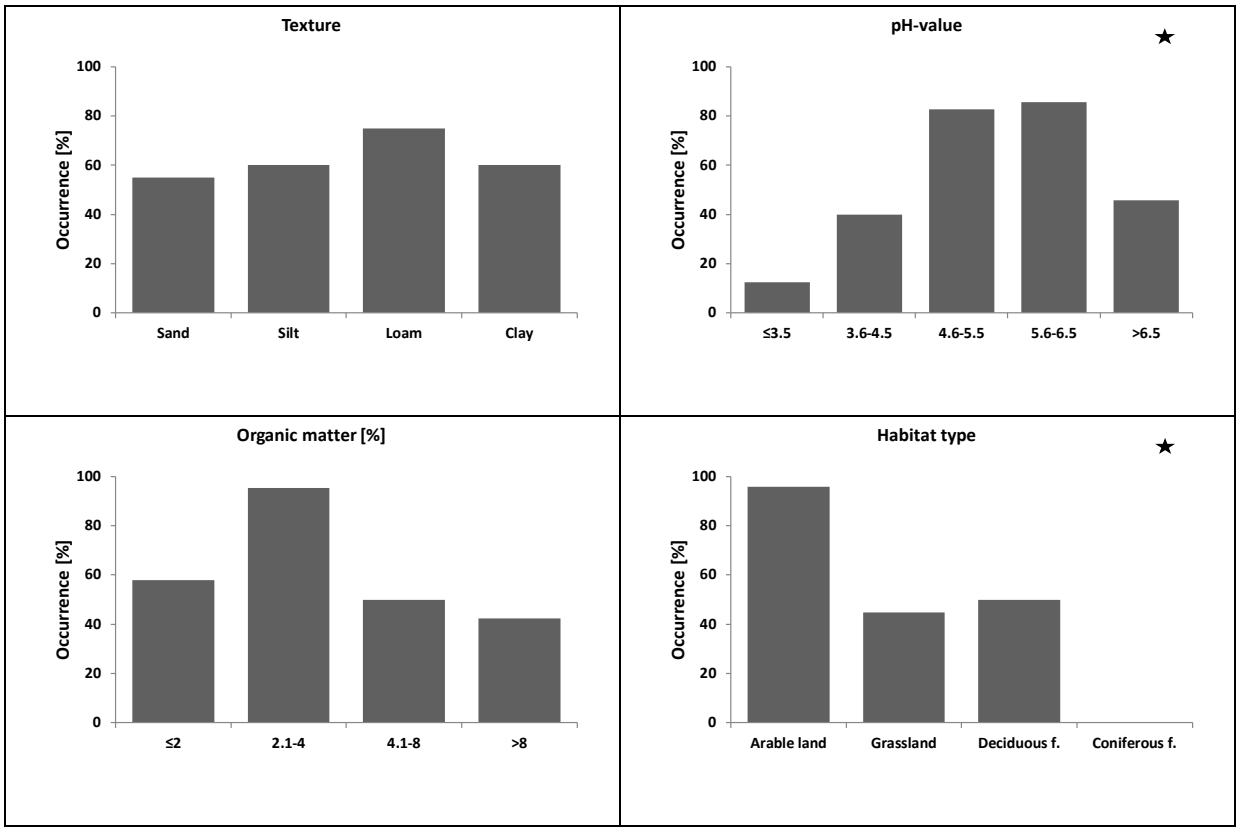



Fig. 19: Records of *E. buchholzi* from the sites in Germany analysed in this study.

Fig. 20: Relative frequency of *E. buchholzi* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Enchytraeus bulbosus*** Nielsen & Christensen, 1963

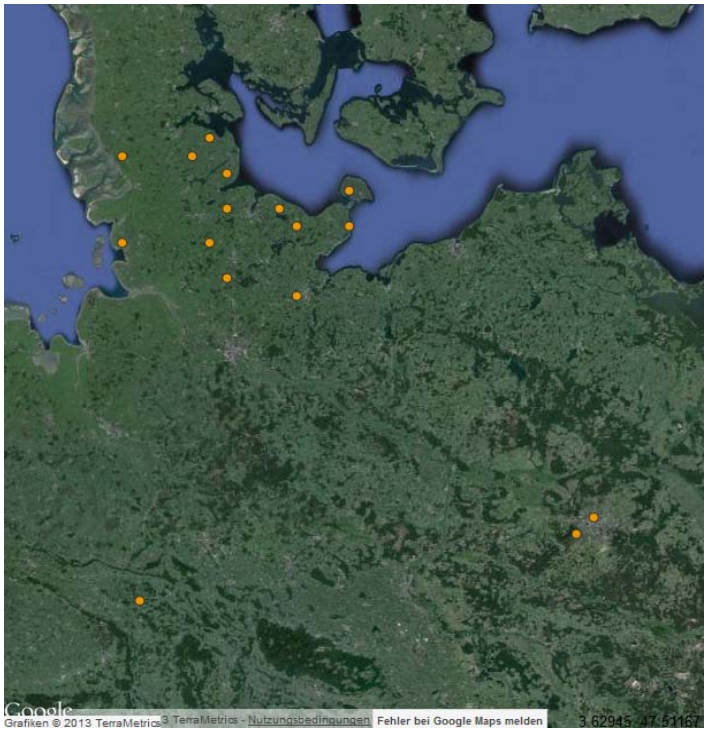
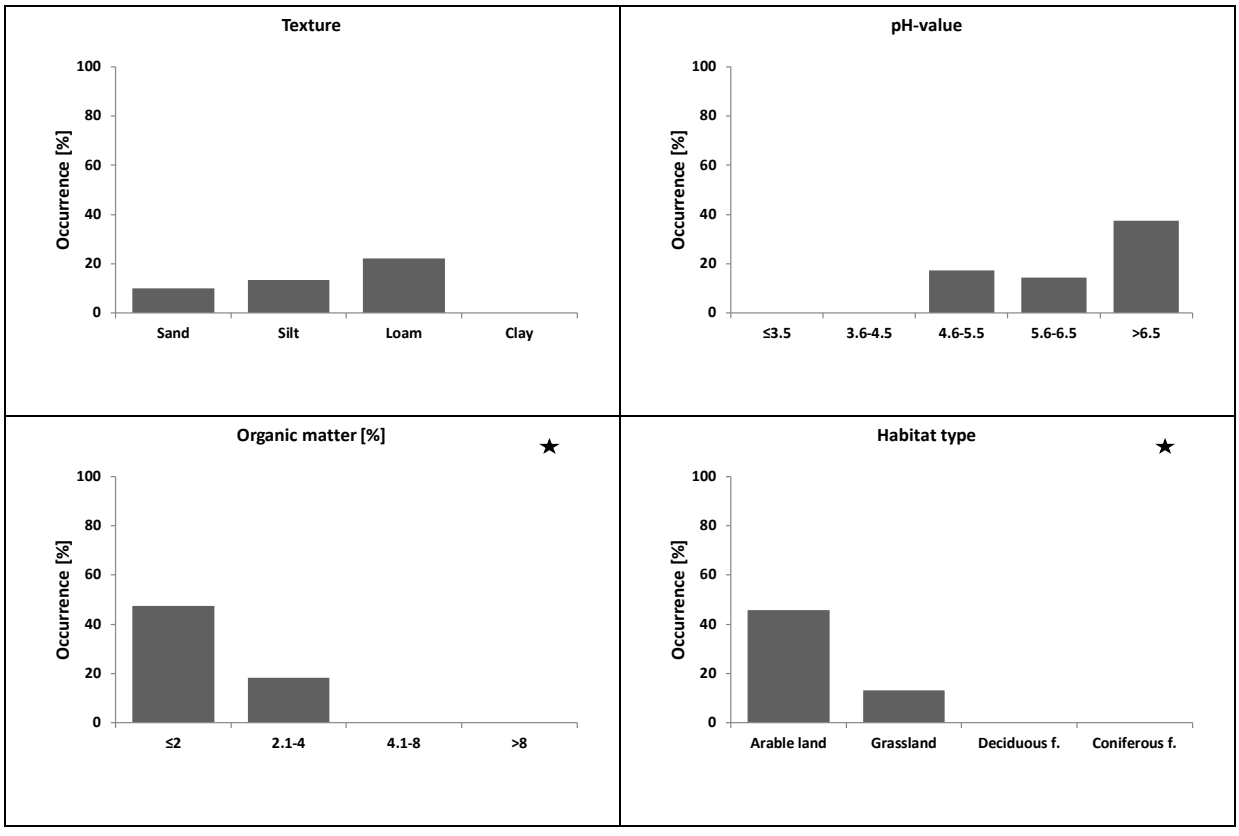



Fig. 21: Records of *E. bulbosus* from the sites in Germany analysed in this study.

Fig. 22: Relative frequency of *E.bulbosus* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Enchytraeus christenseni*** Dózsa-Farkas, 1992

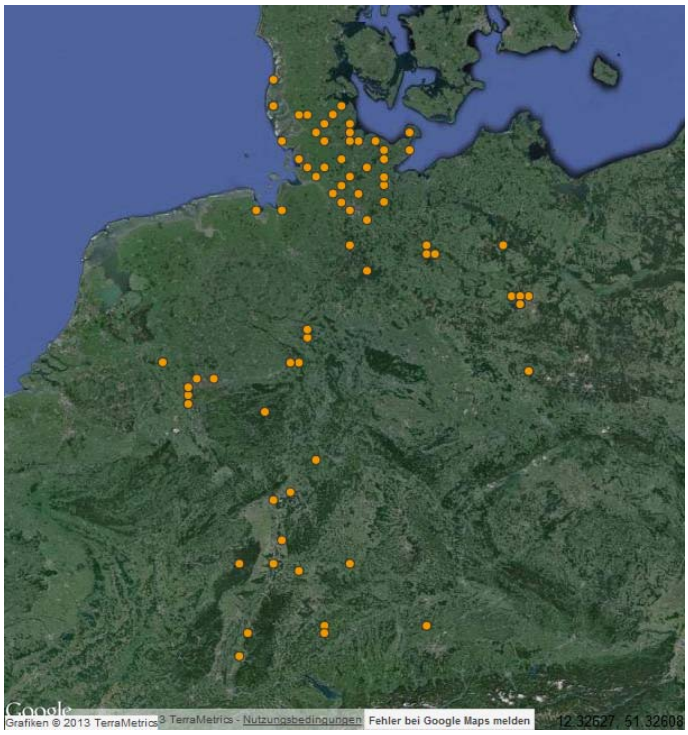
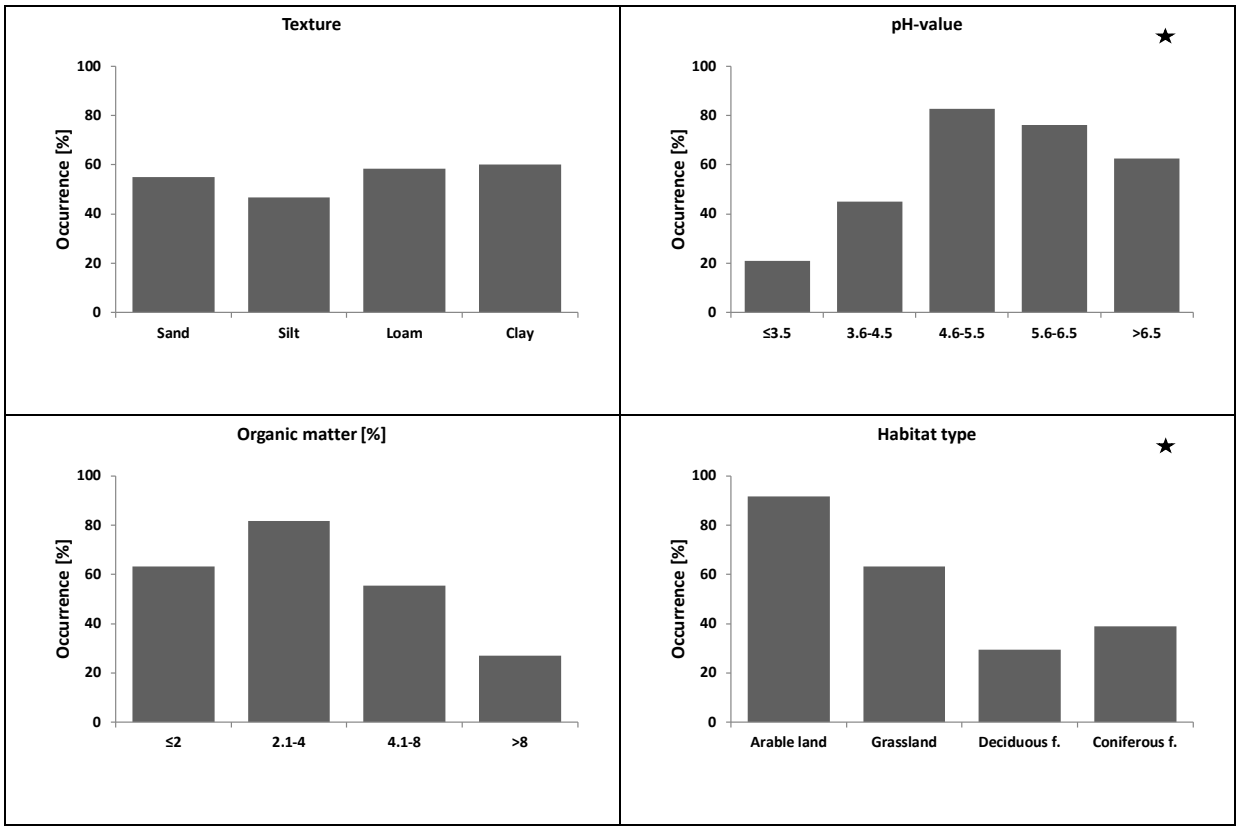



Fig. 23: Records of *E. christenseni* from the sites in Germany analysed in this study.

Fig. 24: Relative frequency of *E. christenseni* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Enchytraeus lacteus*** Nielsen & Christensen, 1961

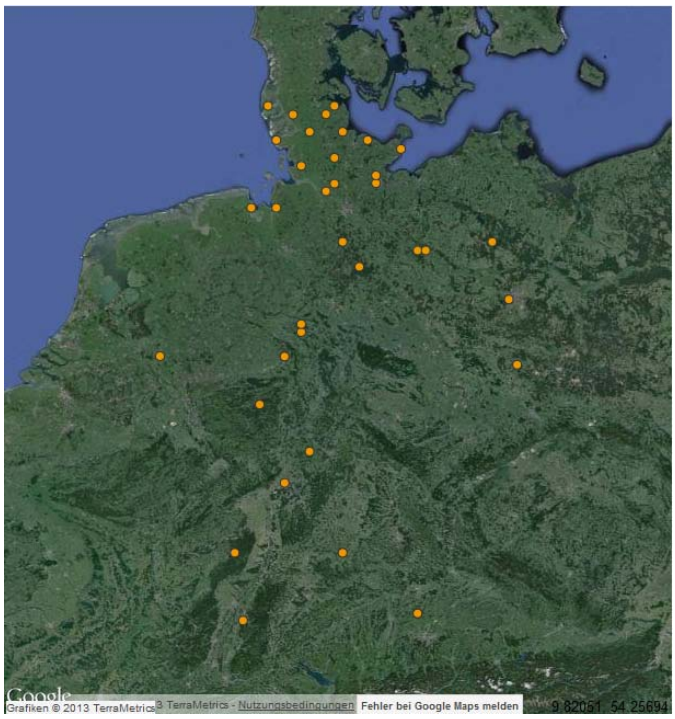
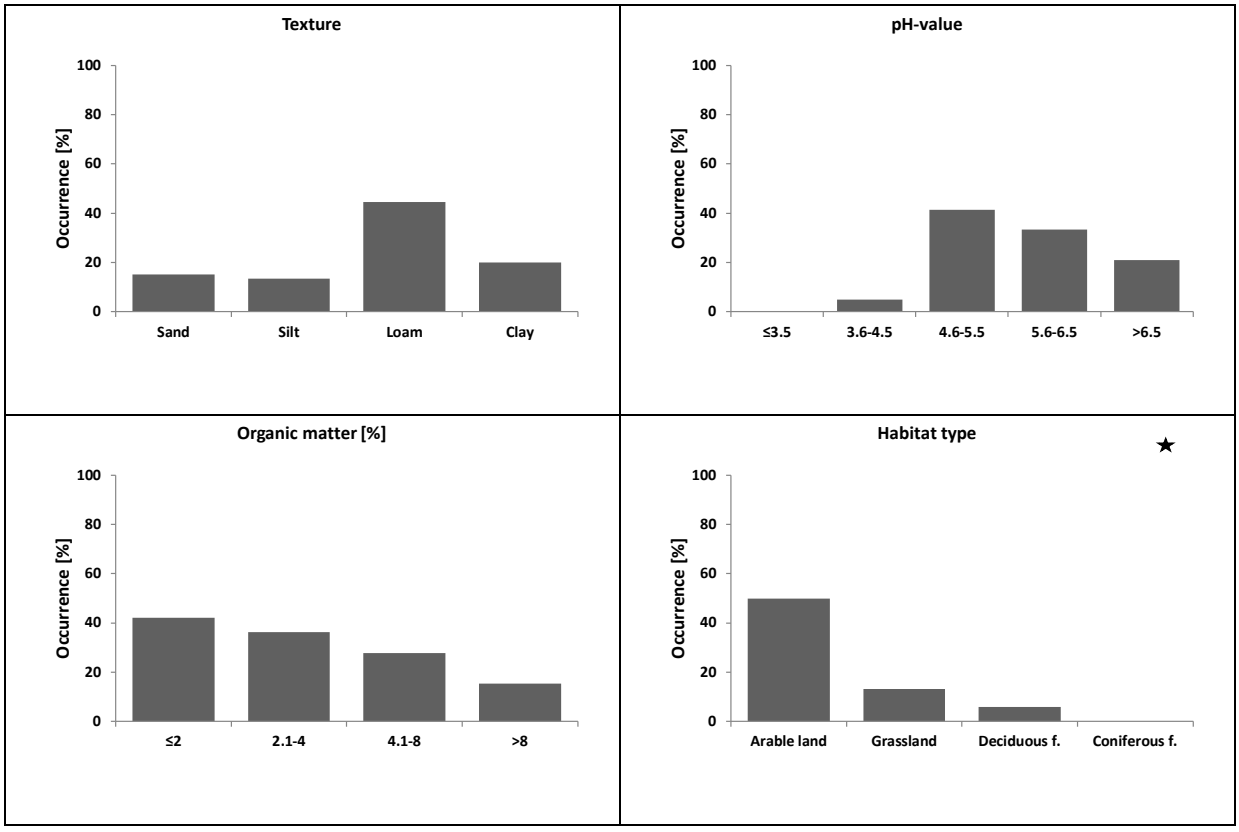



Fig. 25: Records of *E. lacteus* from the sites in Germany analysed in this study.

Fig. 26: Relative frequency of *E. lacteus* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Enchytraeus norvegicus*** Abrahamsen, 1969

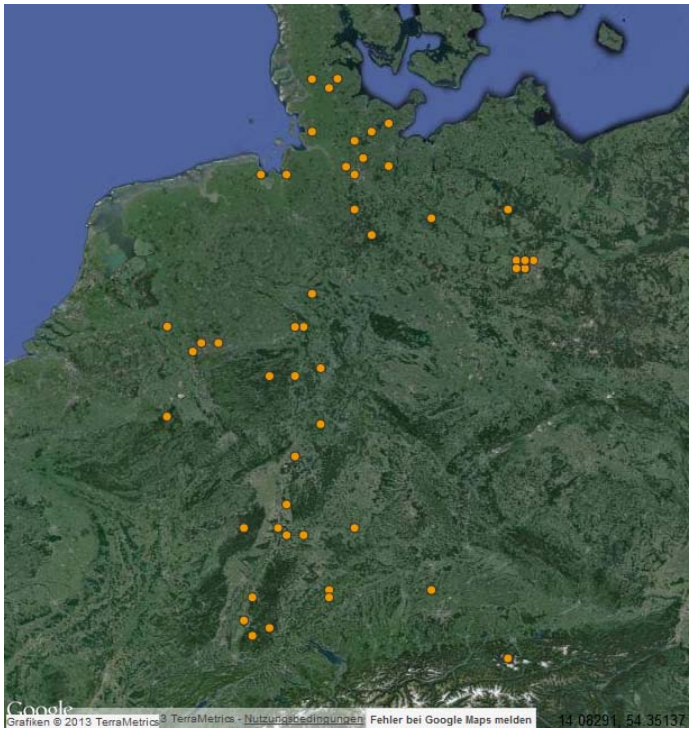
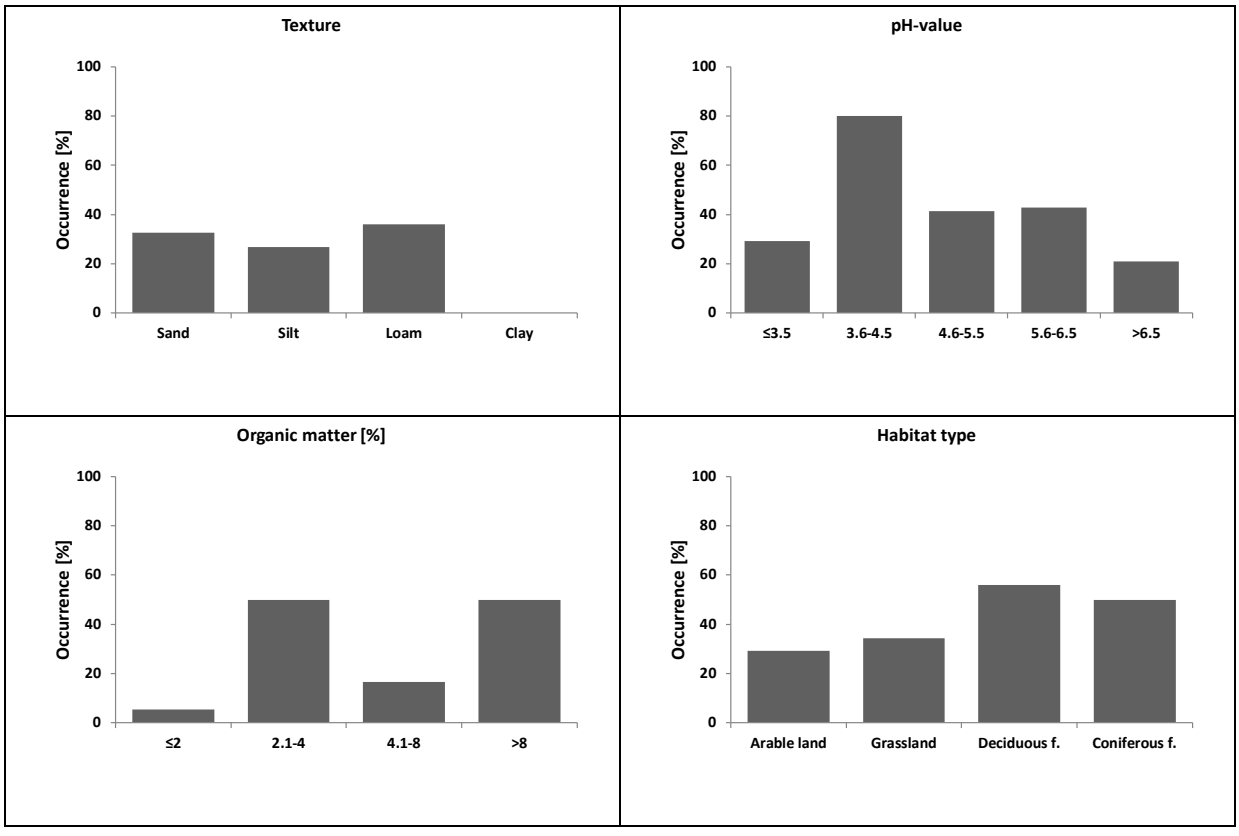



Fig. 27: Records of *E. norvegicus* from the sites in Germany analysed in this study.

Fig. 28: Relative frequency of *E. norvegicus* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Enchytronia annulata*** Nielsen & Christensen, 1959

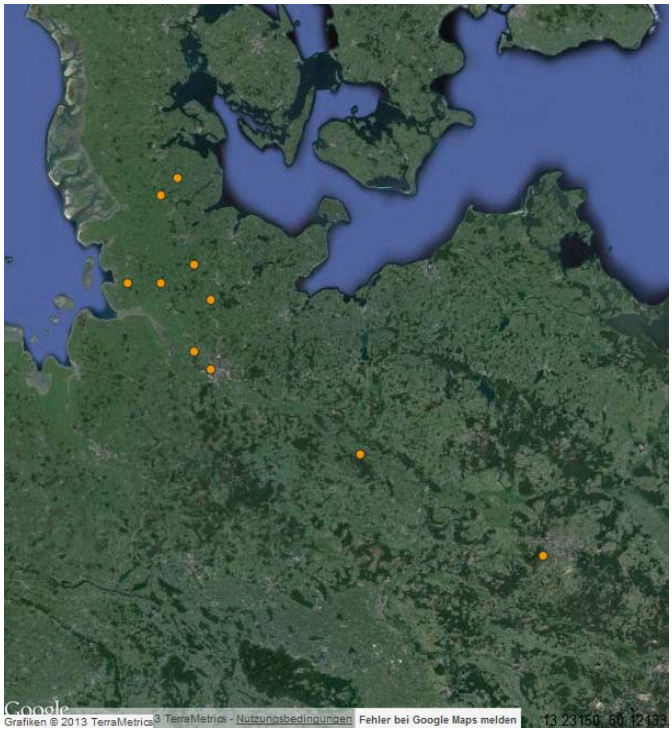
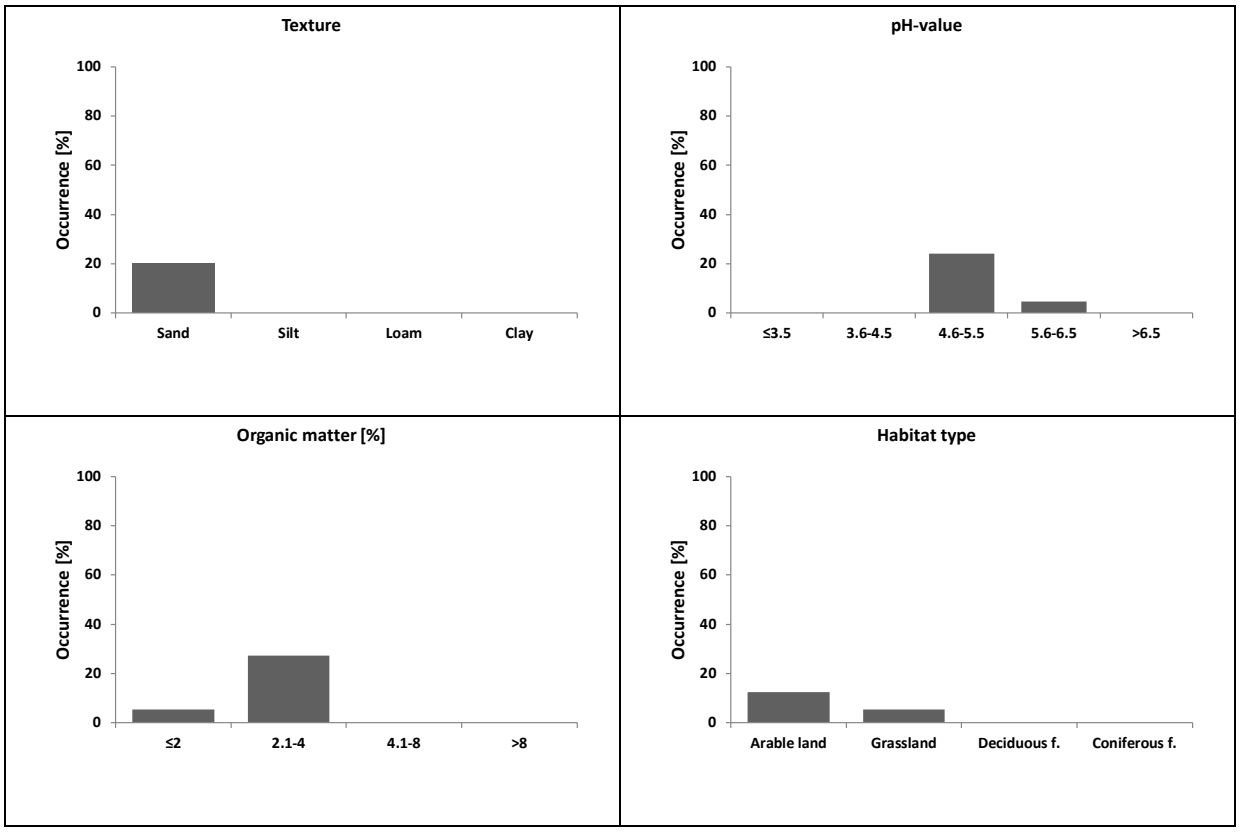



Fig. 29: Records of *E. annulata* from the sites in Germany analysed in this study.

Fig. 30: Relative frequency of *E. annulata* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Enchytronia parva*** Nielsen & Christensen, 1959

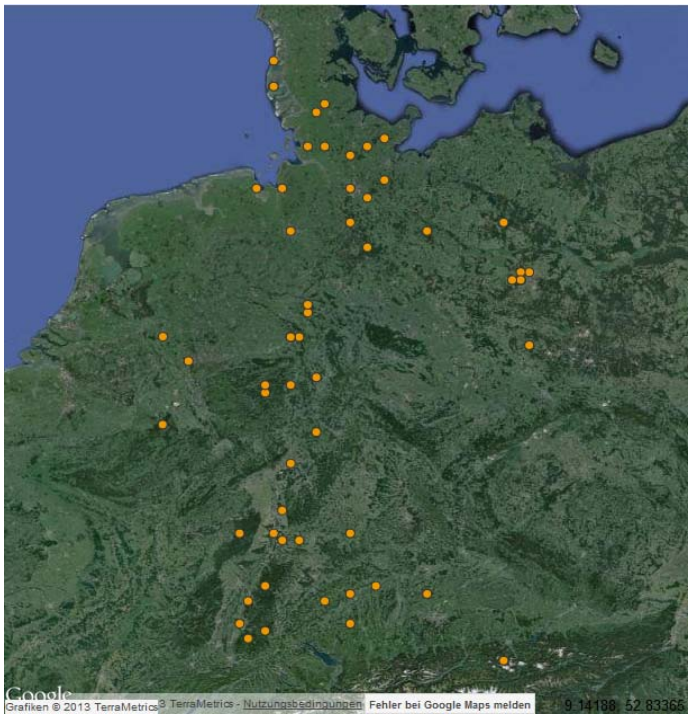
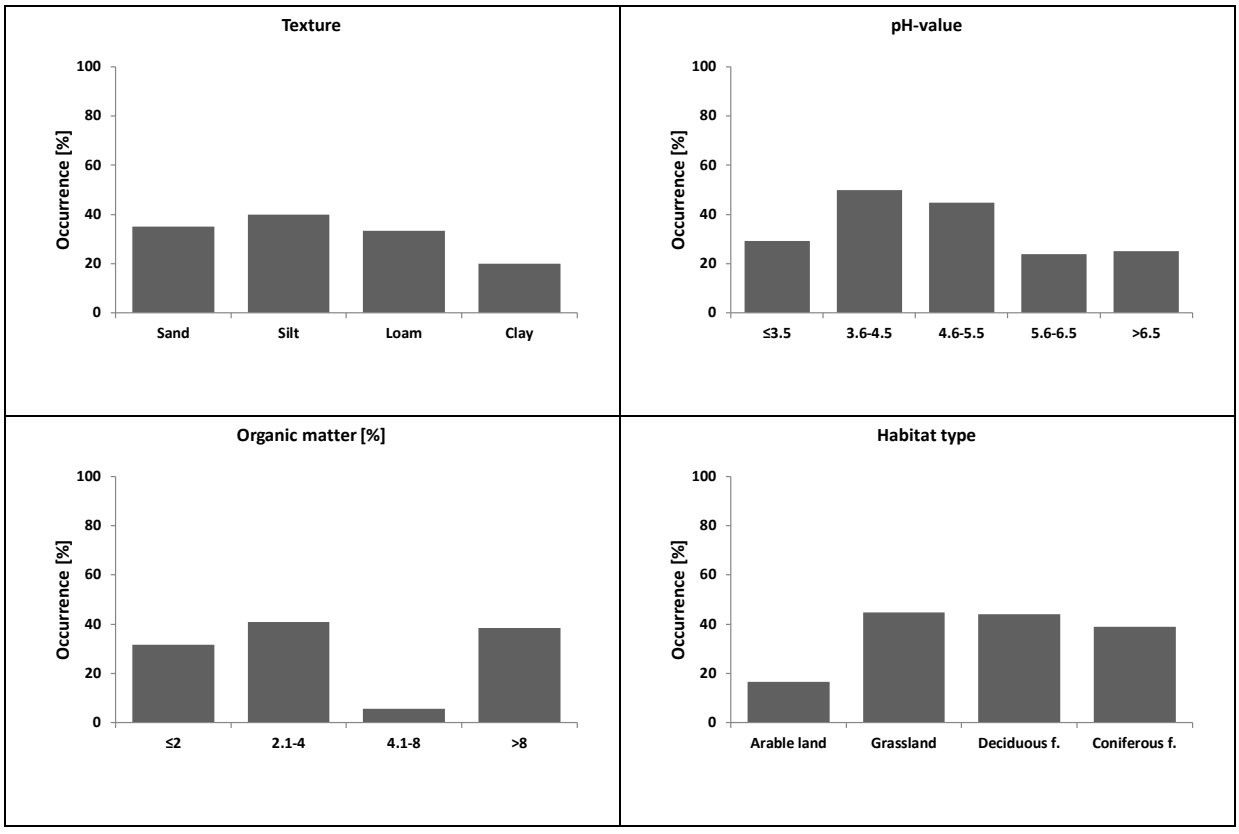



Fig. 31: Records of *E. parva* from the sites in Germany analysed in this study.

Fig. 32: Relative frequency of *E. parva* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Enchytronia pratensis* Chalupský, 1994**

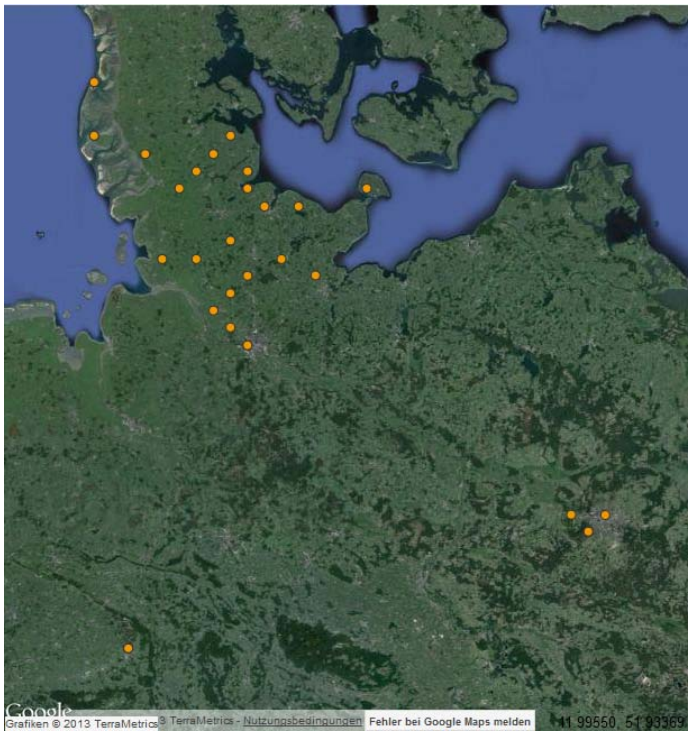
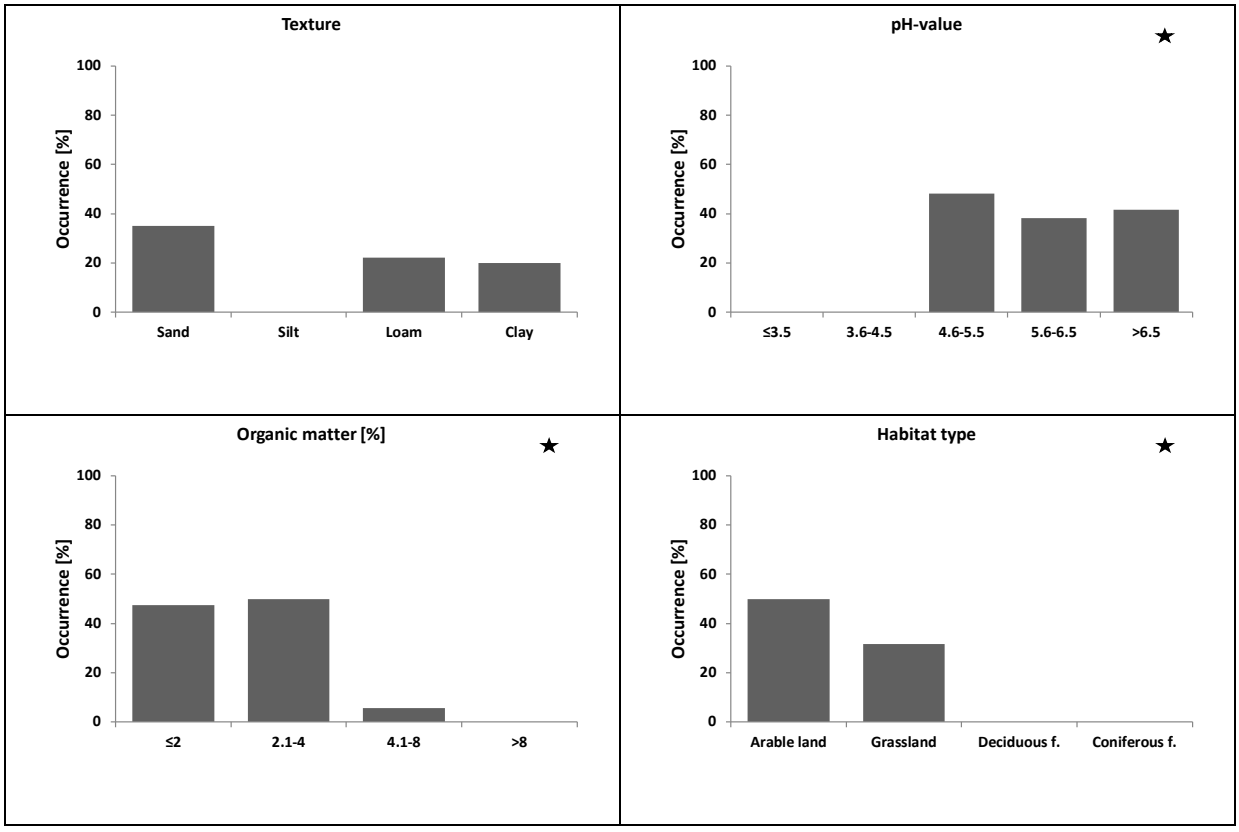



Fig. 33: Records of *E. pratensis* from the sites in Germany analysed in this study.

Fig. 34: Relative frequency of *E. pratensis* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia benti*** Schmelz, 2002

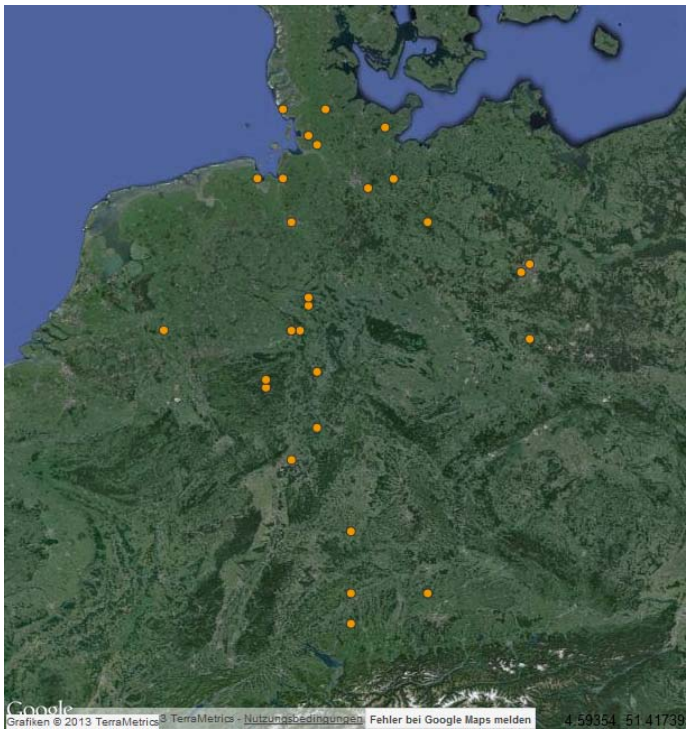
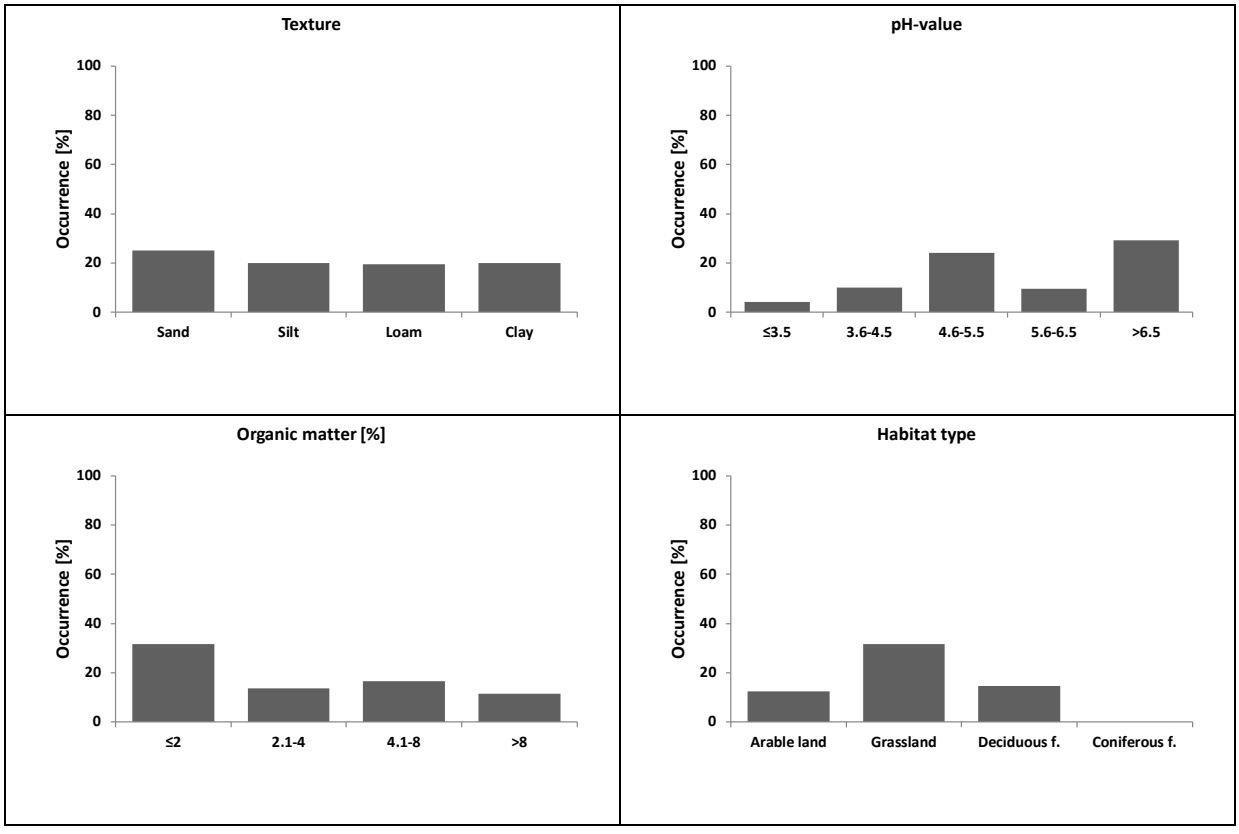



Fig. 35: Records of *F. benti* from the sites in Germany analysed in this study.

Fig. 36: Relative frequency of *F. benti* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Fridericia bisetosa*** (Levinsen, 1884)

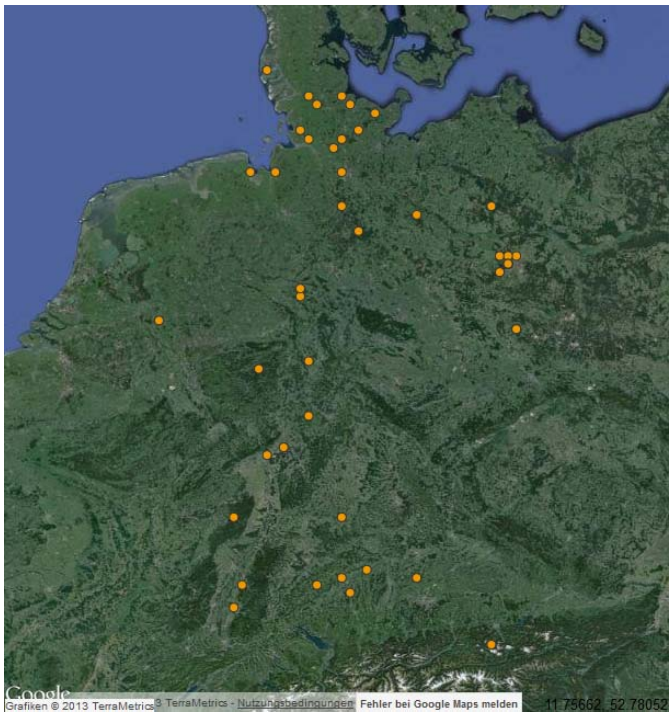
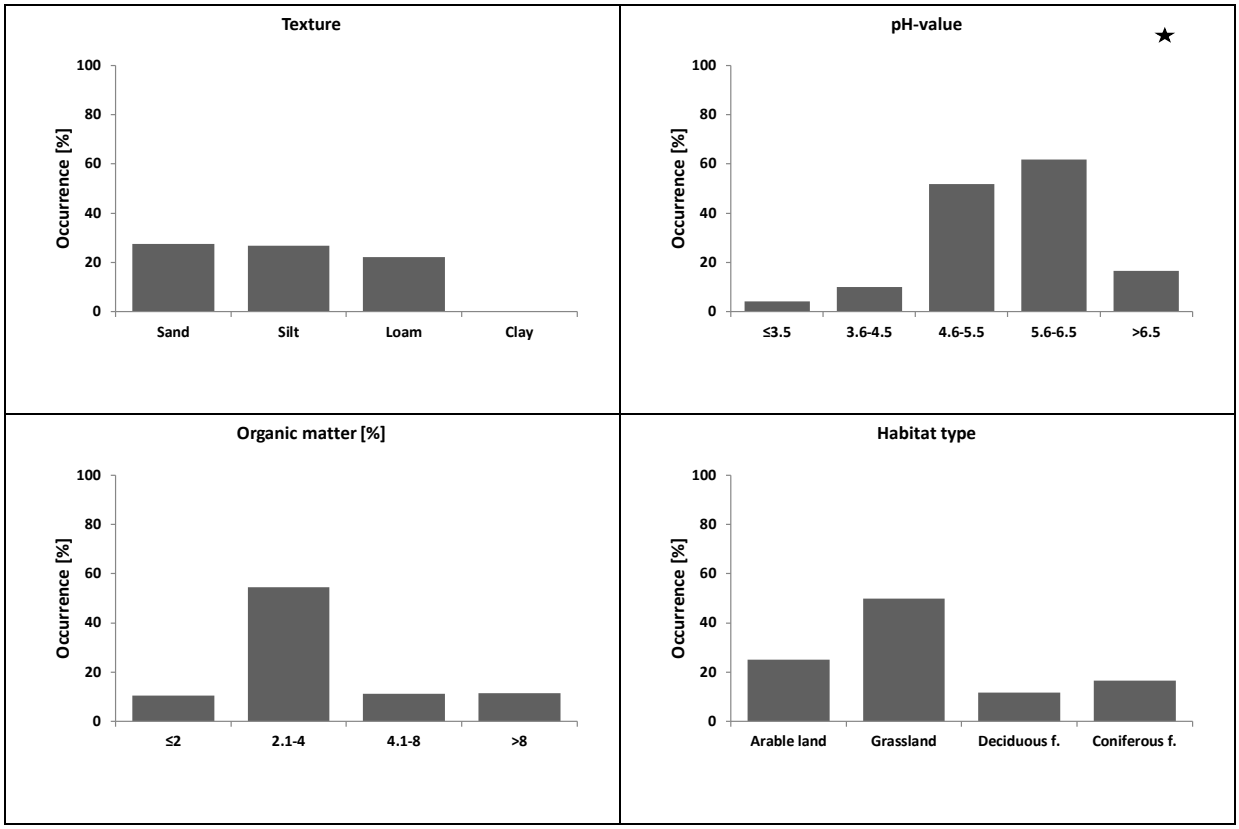



Fig. 37: Records of *F. bisetosa* from the sites in Germany analysed in this study.

Fig. 38: Relative frequency of *F. bisetosa* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia bulboides*** Nielsen & Christensen, 1959

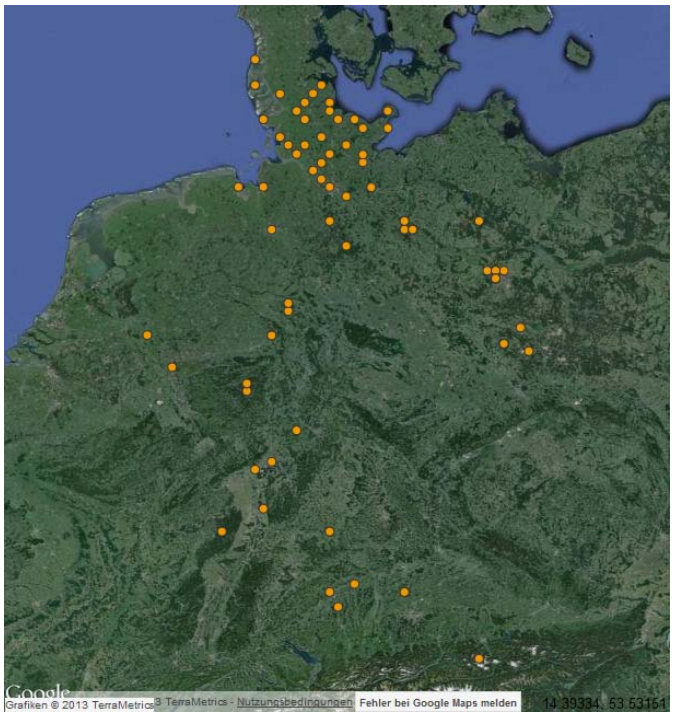
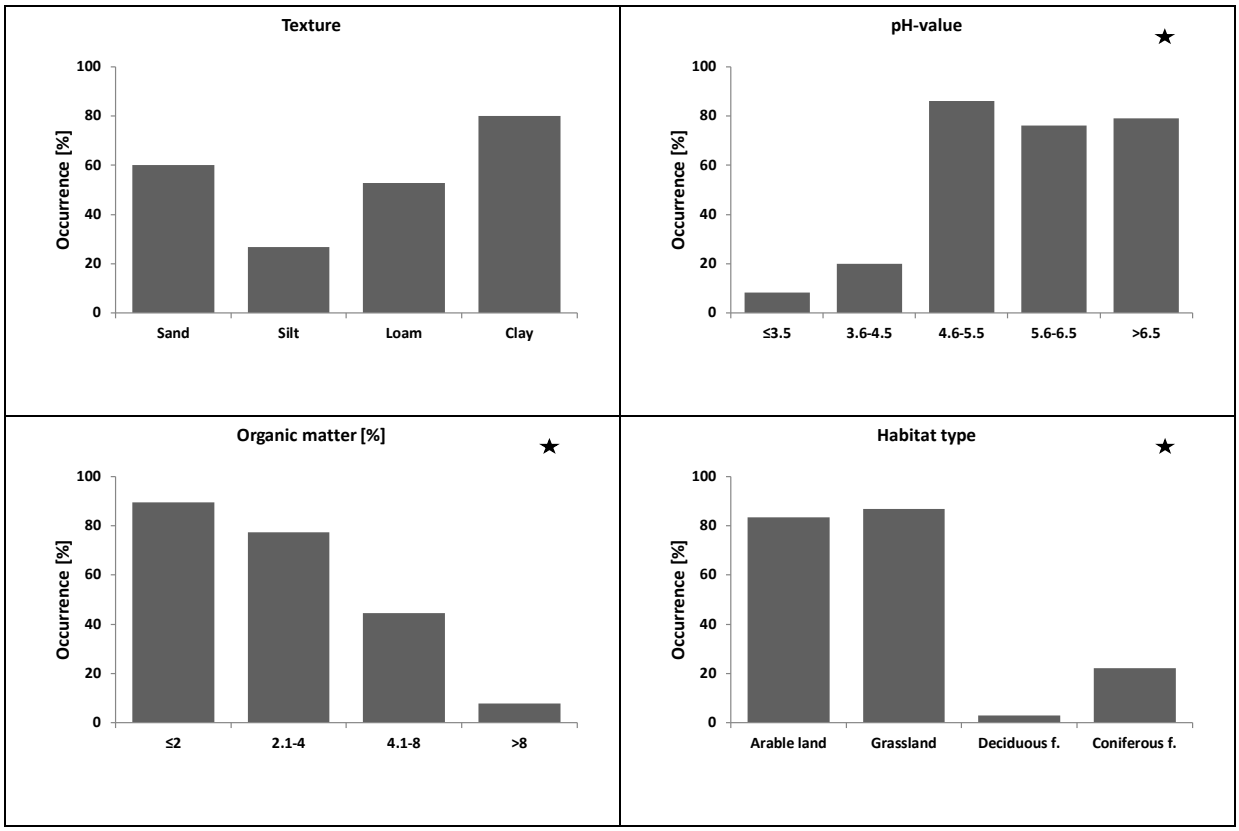



Fig. 39: Records of *F. bulboides* from the sites in Germany analysed in this study.

Fig. 40: Relative frequency of *F. bulboides* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia christeri*** Rota & Healy, 1999

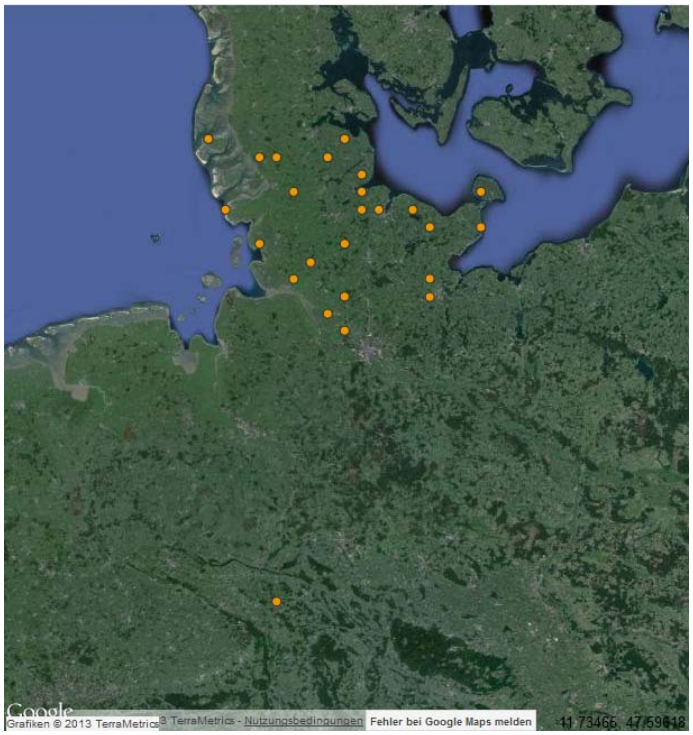
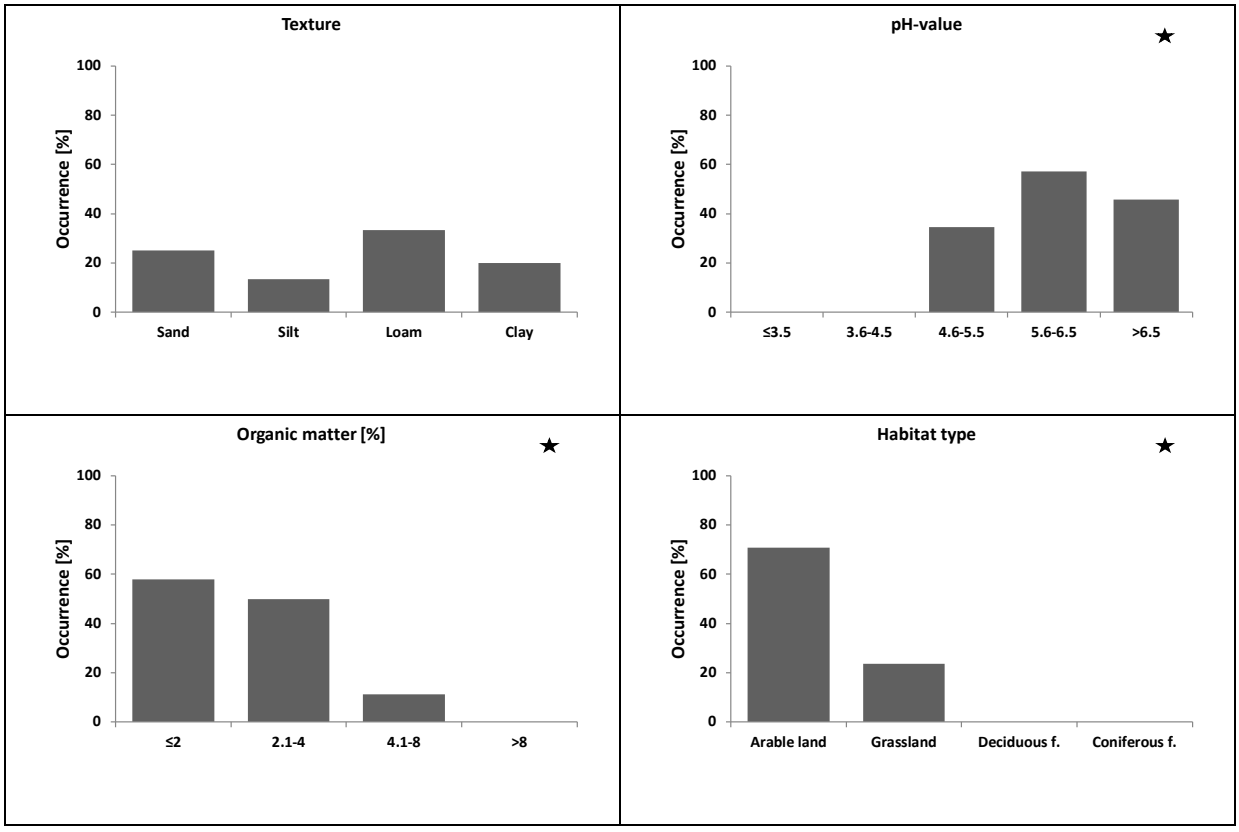



Fig. 41: Records of *F. christeri* from the sites in Germany analysed in this study.

Fig. 42: Relative frequency of *F. christeri* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia deformis*** Möller, 1971

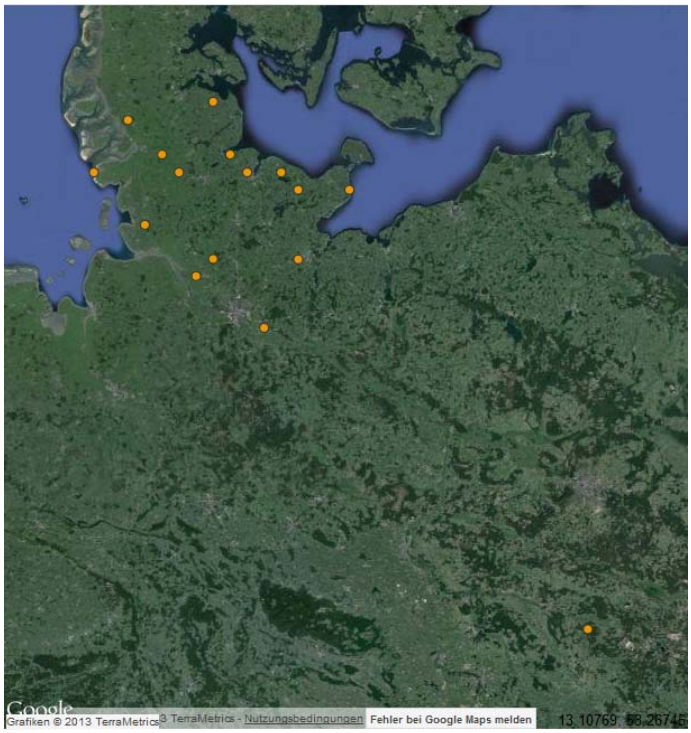
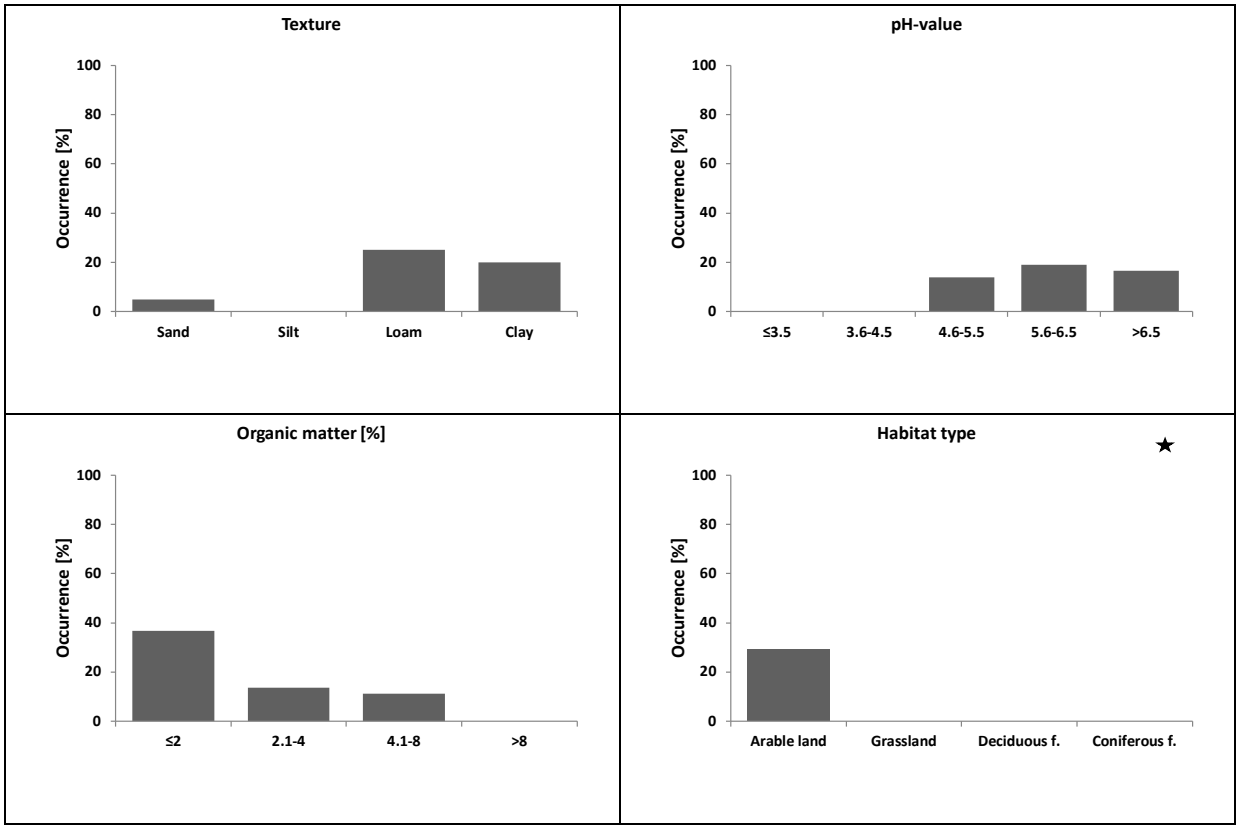



Fig. 43: Records of *F. deformis* from the sites in Germany analysed in this study.

Fig. 44: Relative frequency of *F. deformis* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia galba*** (Hoffmeister, 1843)

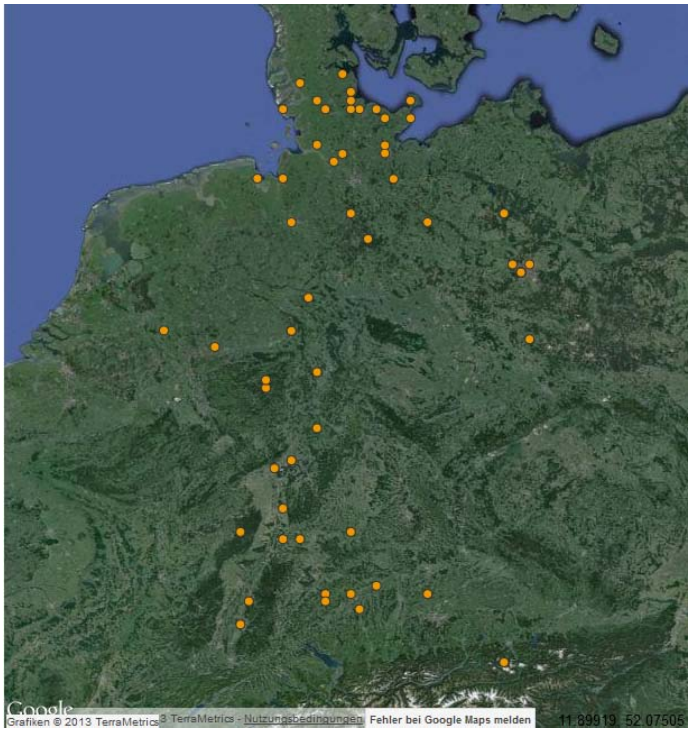
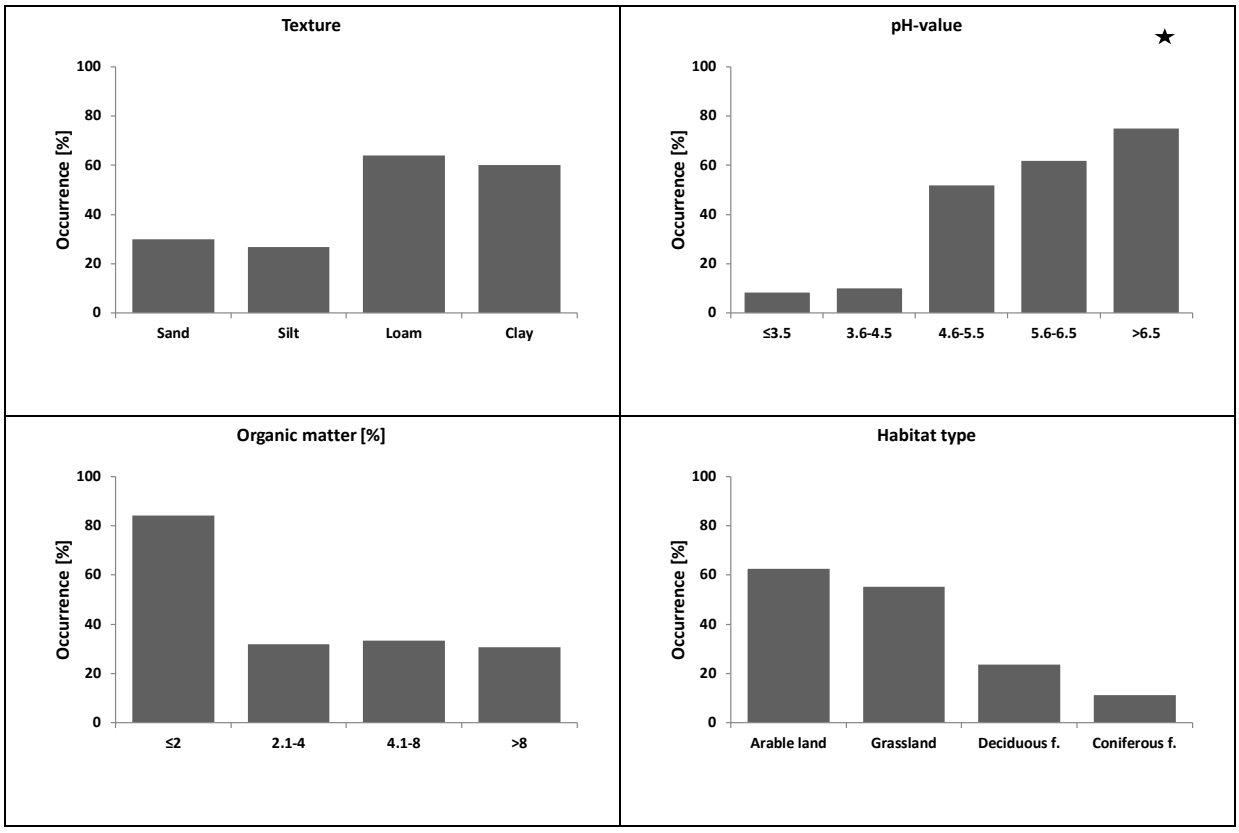



Fig. 45: Records of *F. galba* from the sites in Germany analysed in this study.

Fig. 46: Relative frequency of *F. galba* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).

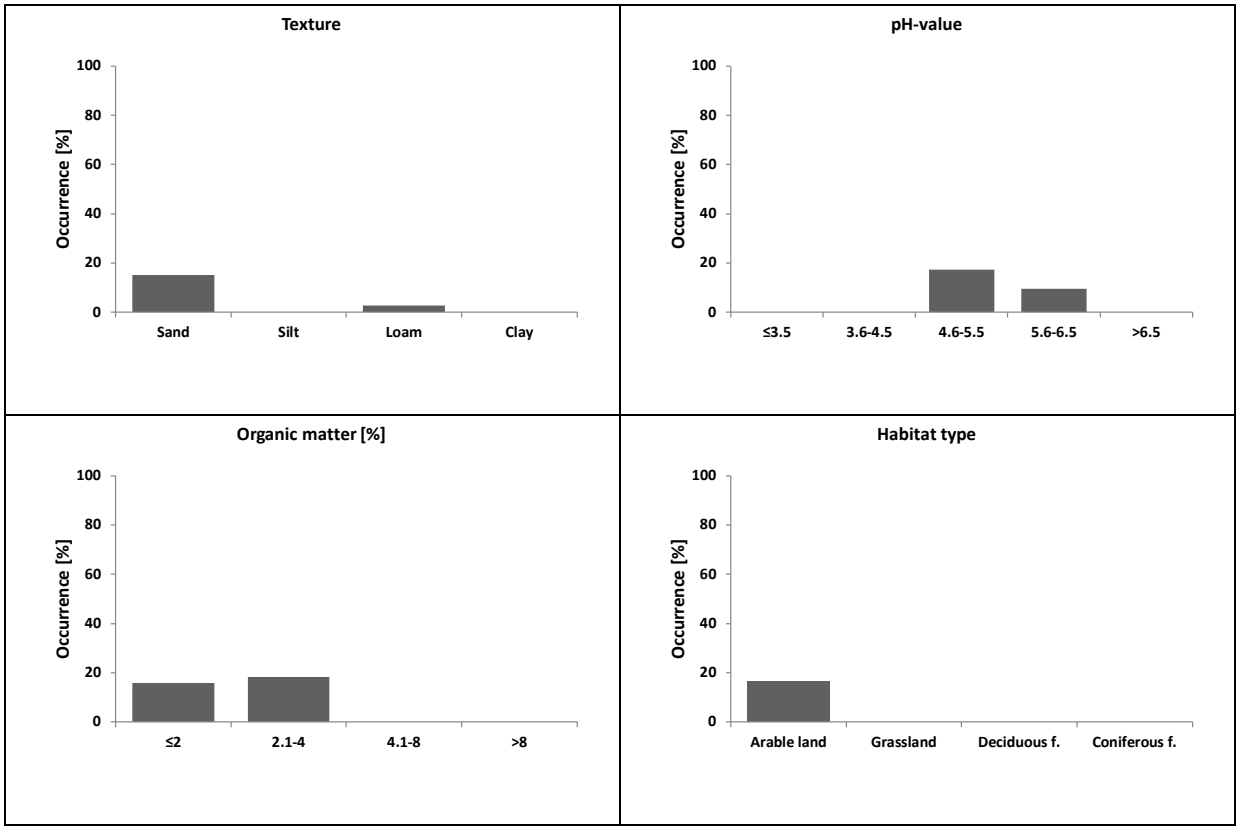


***Fridericia granosa*** Schmelz, 2003




Fig. 47: Records of *F. granosa* from the sites in Germany analysed in this study.

Fig. 48: Relative frequency of *F. granosa* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). No statistically significant differences ($Chi^2$-Test).



***Fridericia isseli*** Rota, 1994

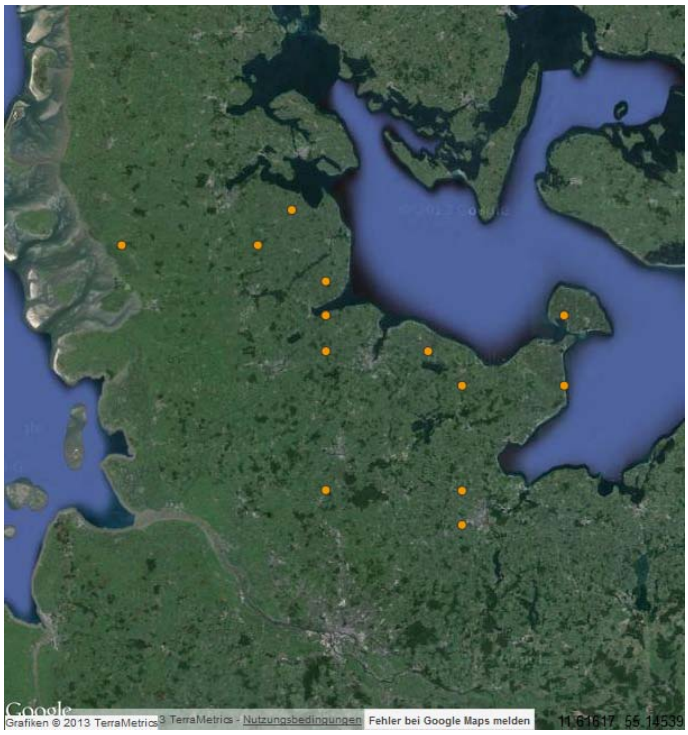
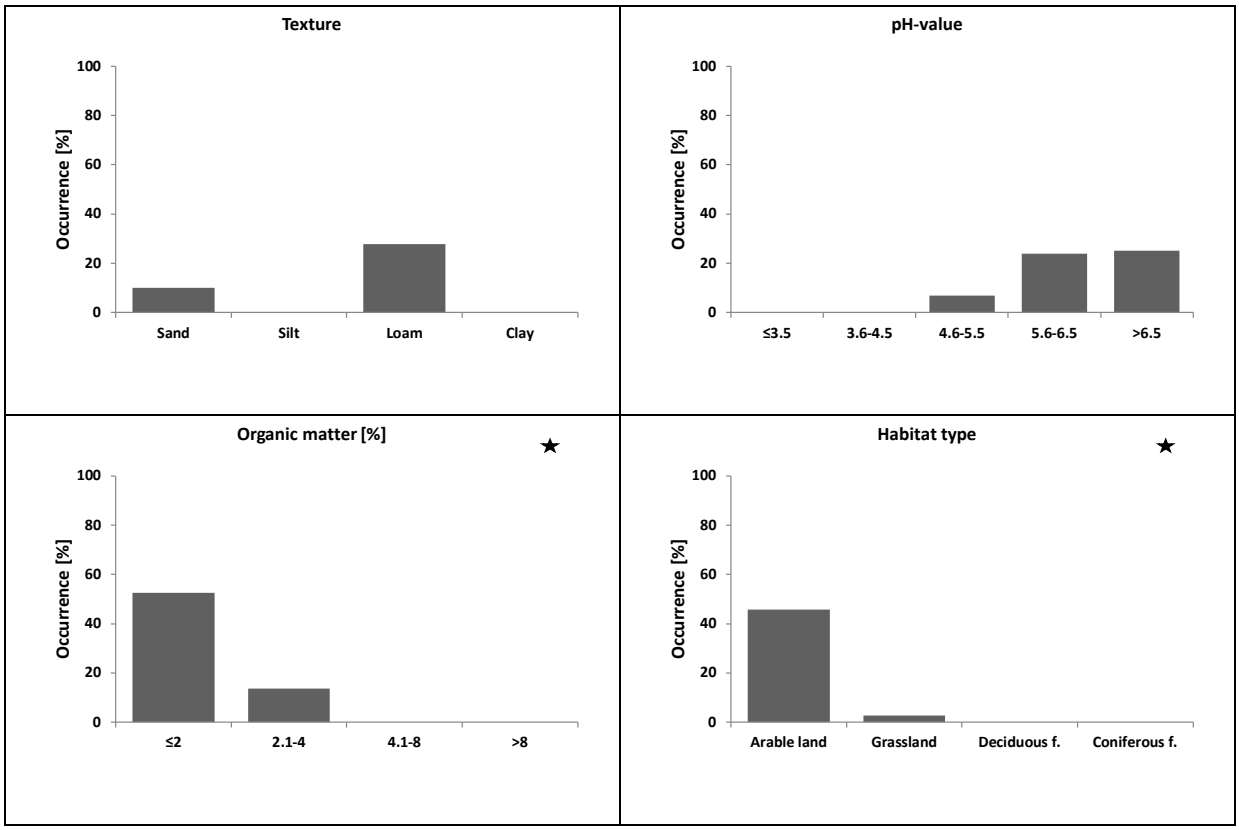



Fig. 49: Records of *F. isseli* from the sites in Germany analysed in this study.

Fig. 50: Relative frequency of *F. isseli* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia paroniana*** Issel, 1904

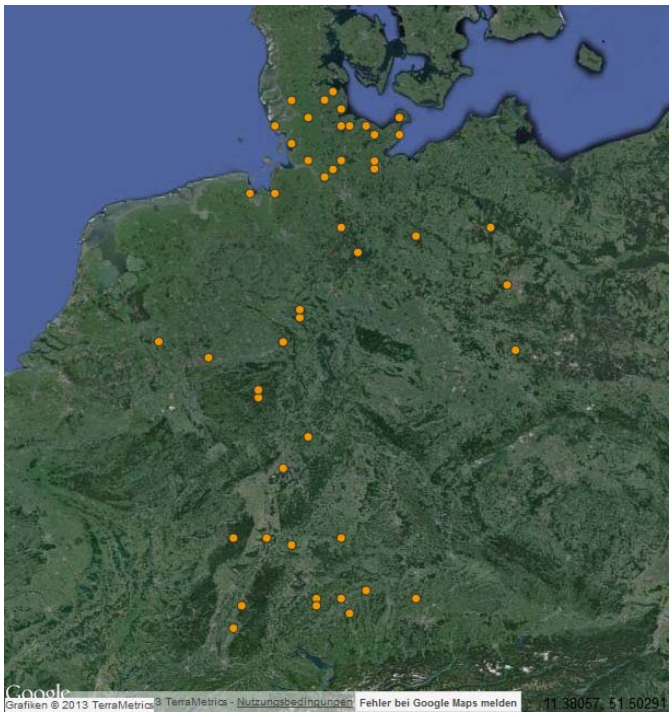
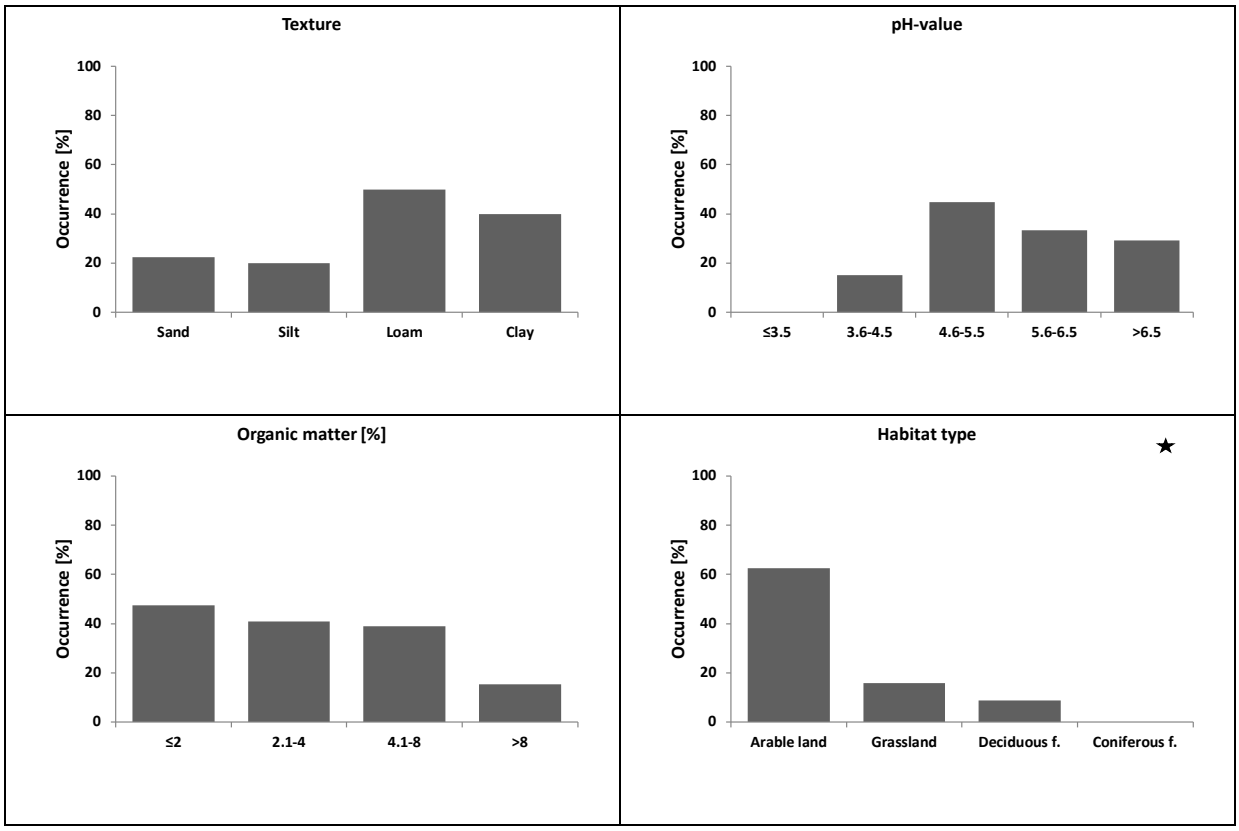



Fig. 51: Records of *F. paroniana* from the sites in Germany analysed in this study.

Fig. 52: Relative frequency of *F. paroniana* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia ratzeli*** (Eisen, 1872)

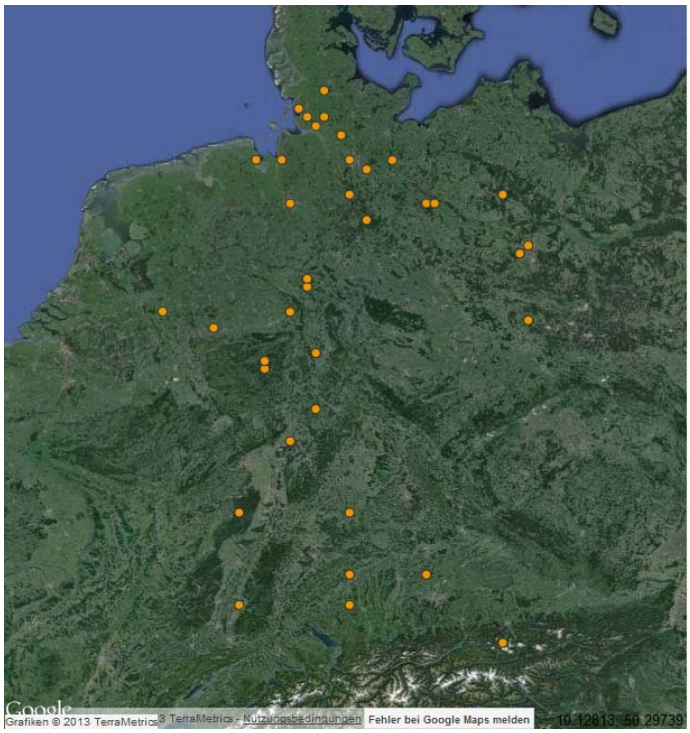
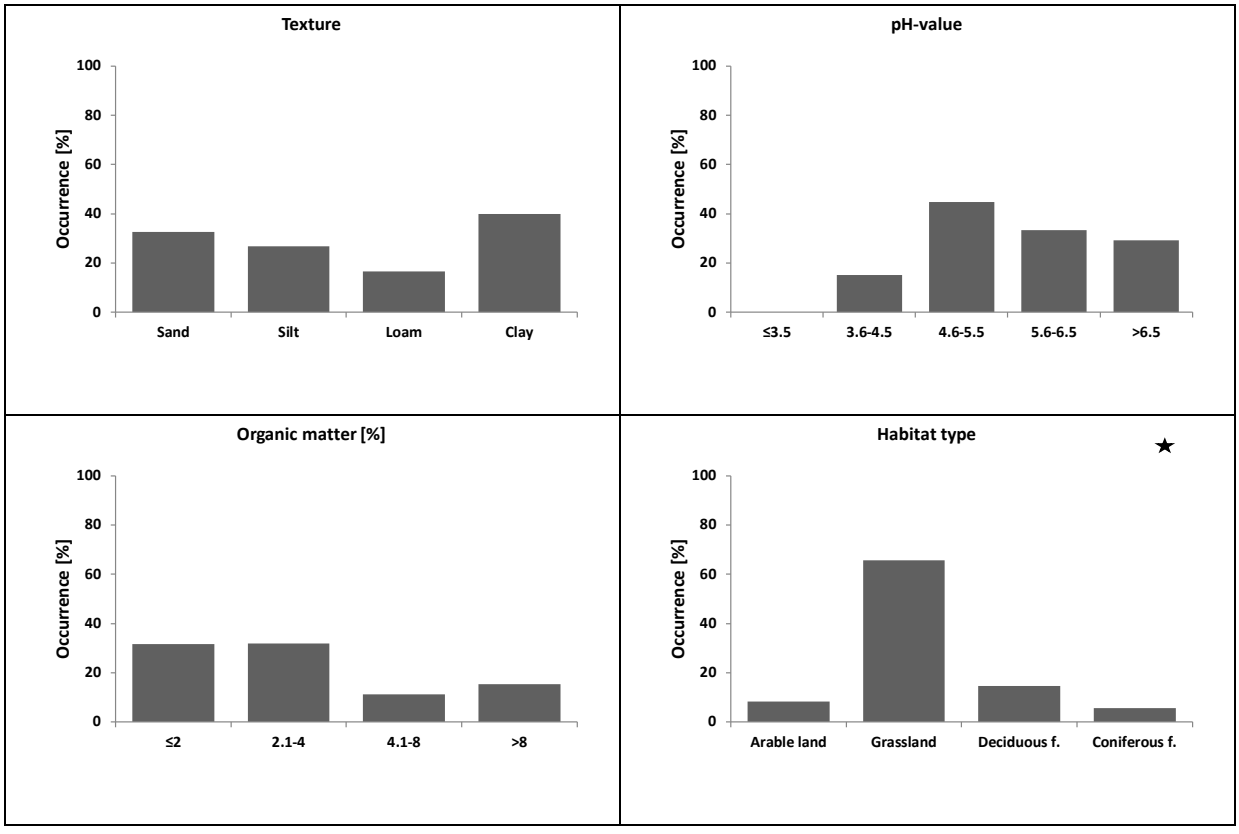



Fig. 53: Records of *F. ratzeli* from the sites in Germany analysed in this study.

Fig. 54: Relative frequency of *F. ratzeli* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia striata*** (Levinsen, 1884)

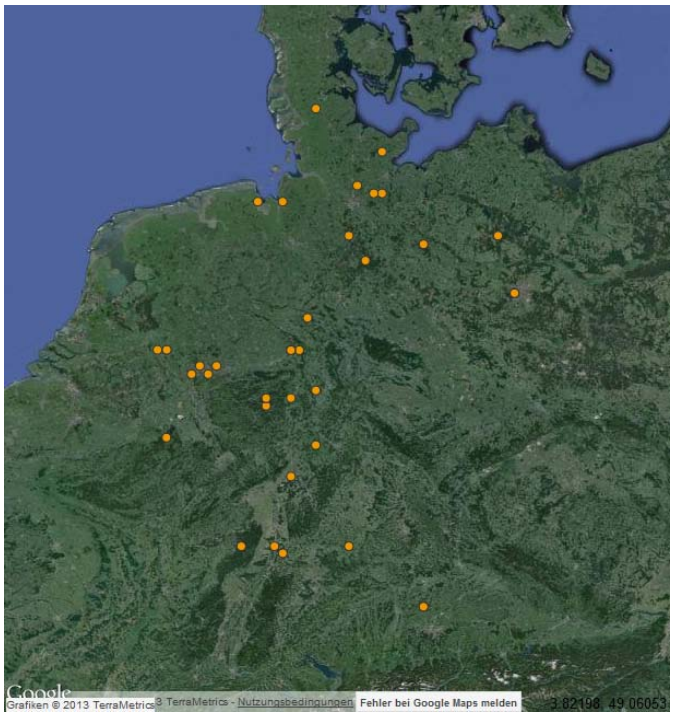
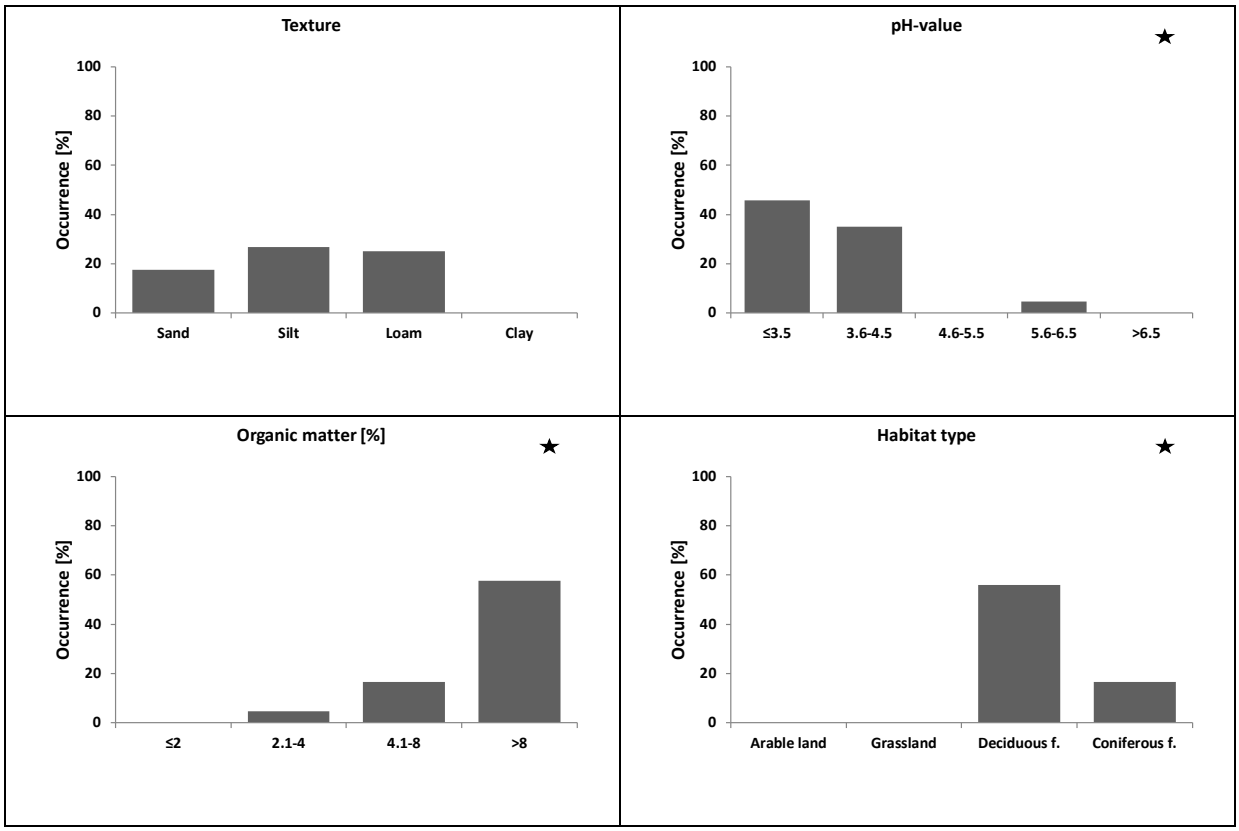



Fig. 55: Records of *F. striata* from the sites in Germany analysed in this study.

Fig. 56: Relative frequency of *F. striata* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Fridericia sylvatica*** Healy, 1979

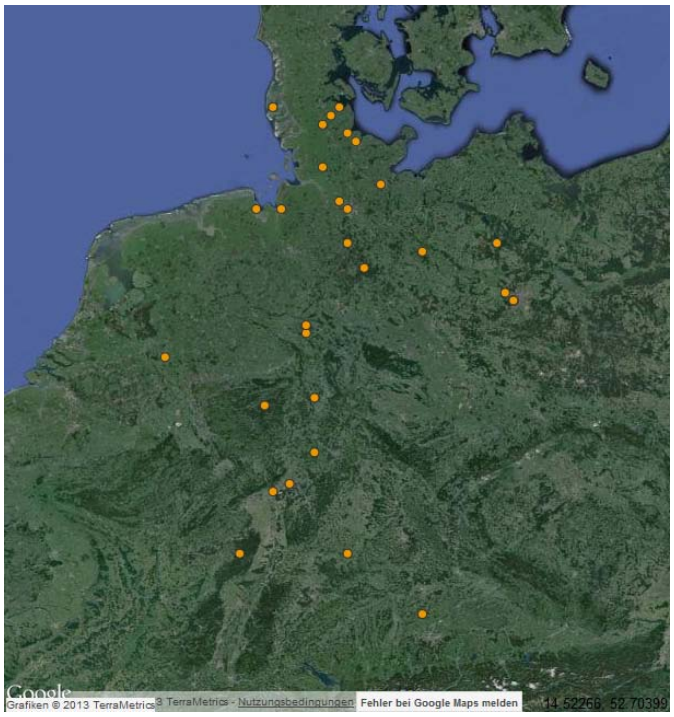
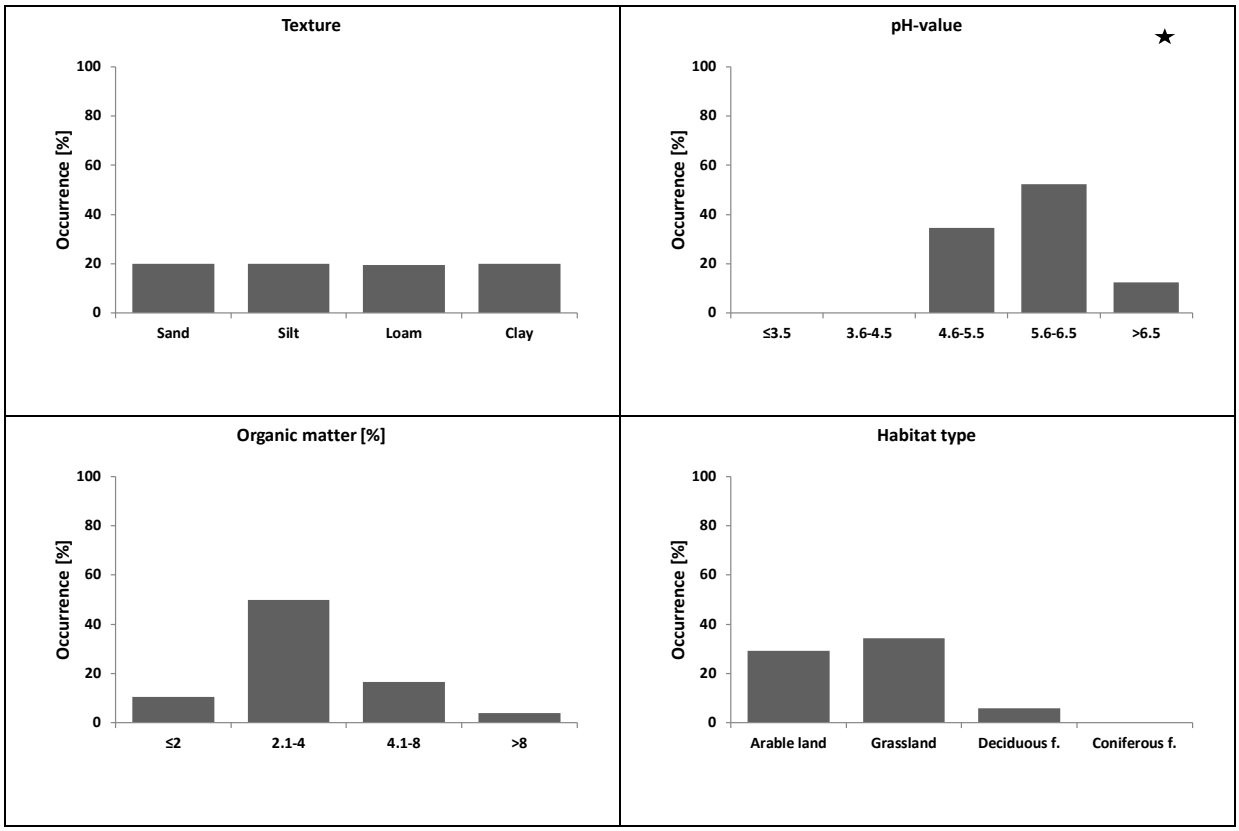



Fig. 57: Records of *F. sylvatica* from the sites in Germany analysed in this study.

Fig. 58: Relative frequency of *F. sylvatica* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Henlea perpusilla*** Friend, 1911 augm. Černosvitov, 1937

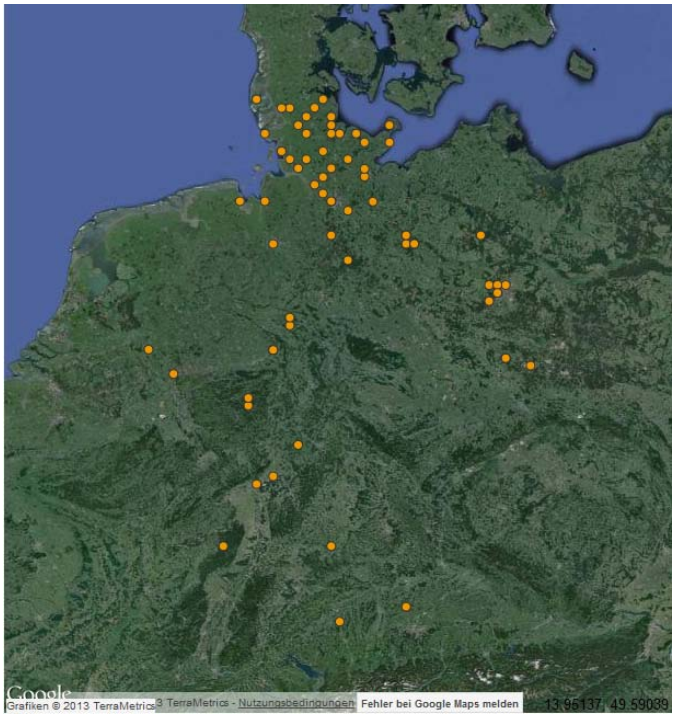
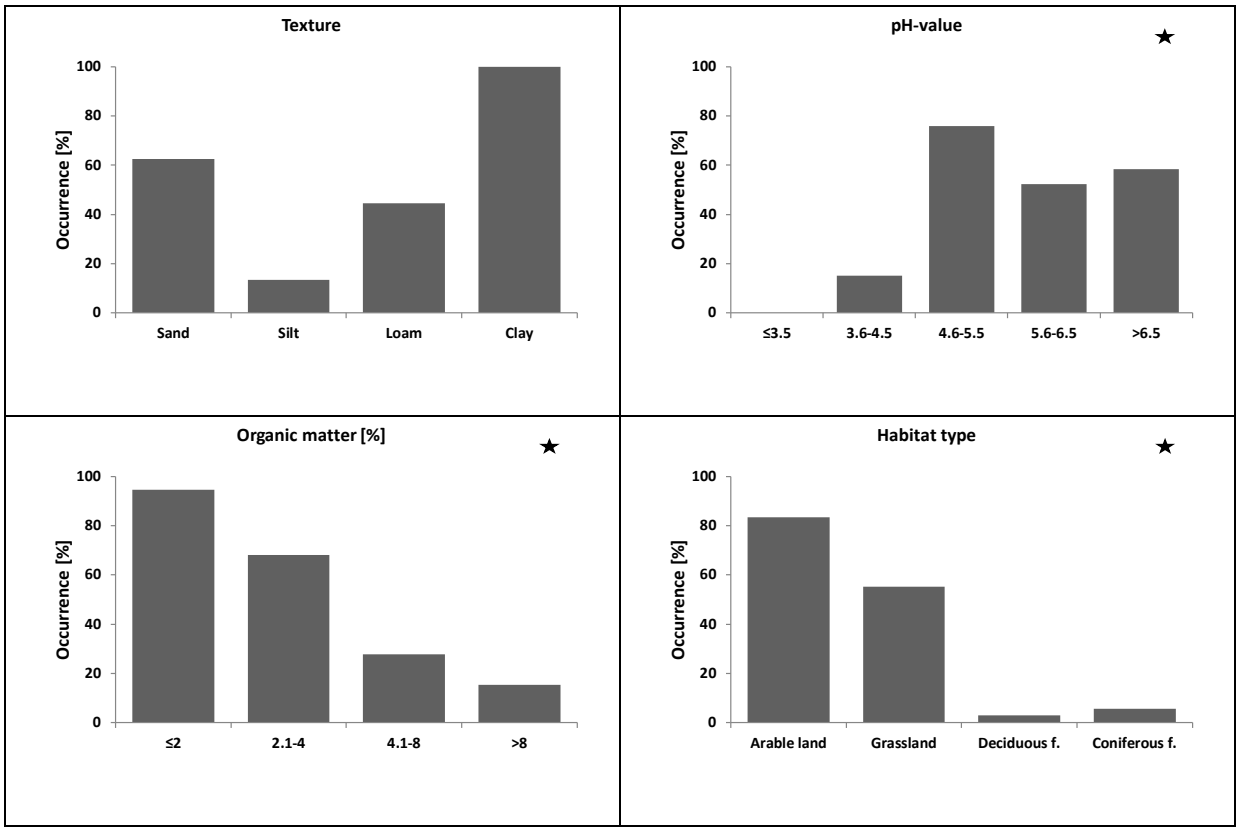



Fig. 59: Records of *H. perpusilla* from the sites in Germany analysed in this study.

Fig. 60: Relative frequency of *H. perpusilla* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Henlea ventriculosa*** (d'Udekem, 1854)

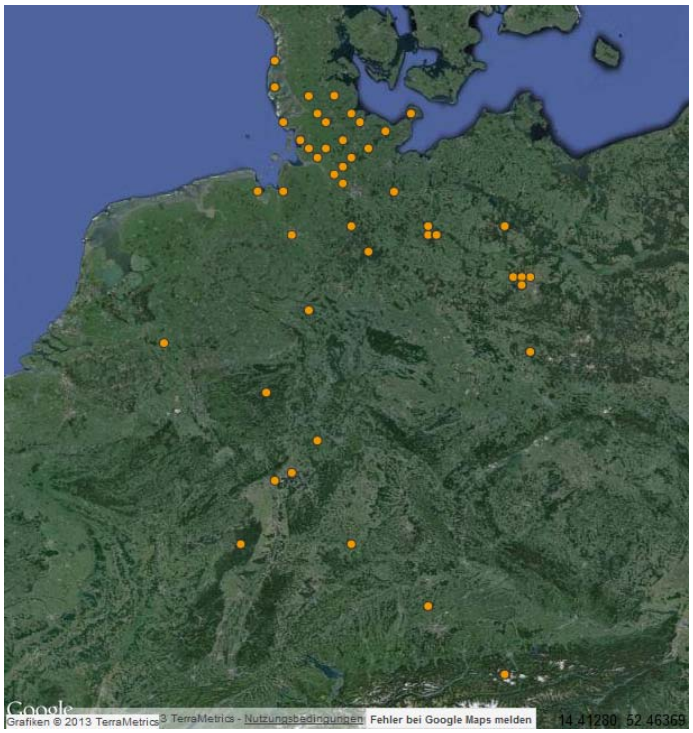
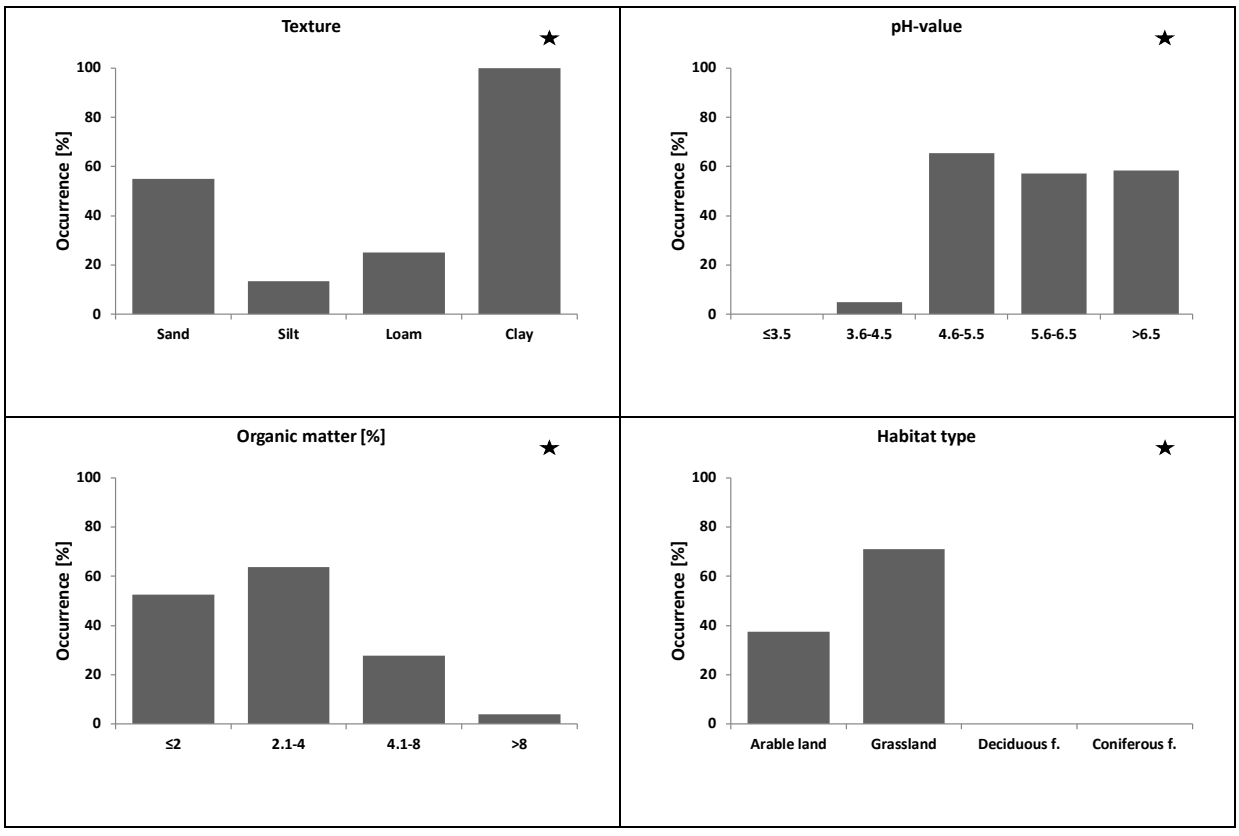



Fig. 61: Records of *H. ventriculosa* from the sites in Germany analysed in this study.

Fig. 62: Relative frequency of *H. ventriculosa* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Marionina brendae*** Rota, 1995

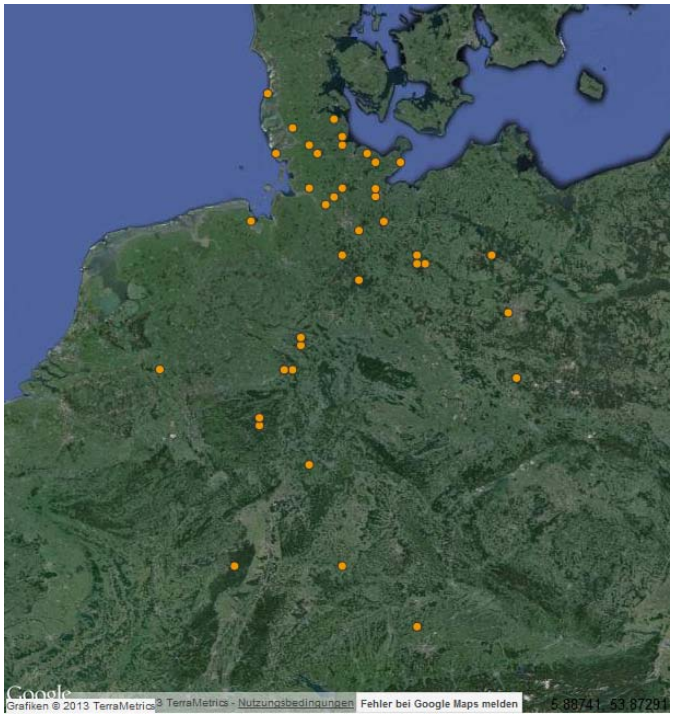
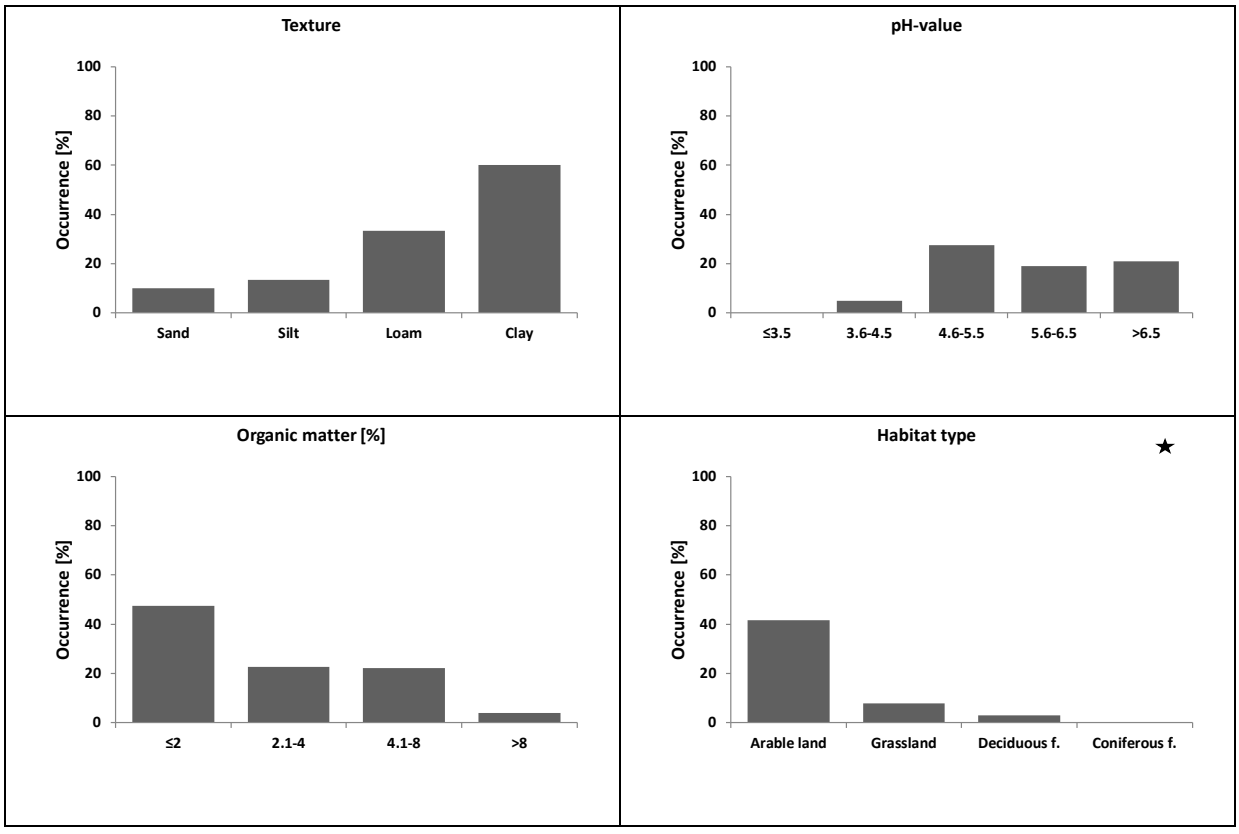



Fig. 63: Records of *M. brendae* from the sites in Germany analysed in this study.

Fig. 64: Relative frequency of *M. brendae* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Marionina clavata*** Nielsen & Christensen, 1961

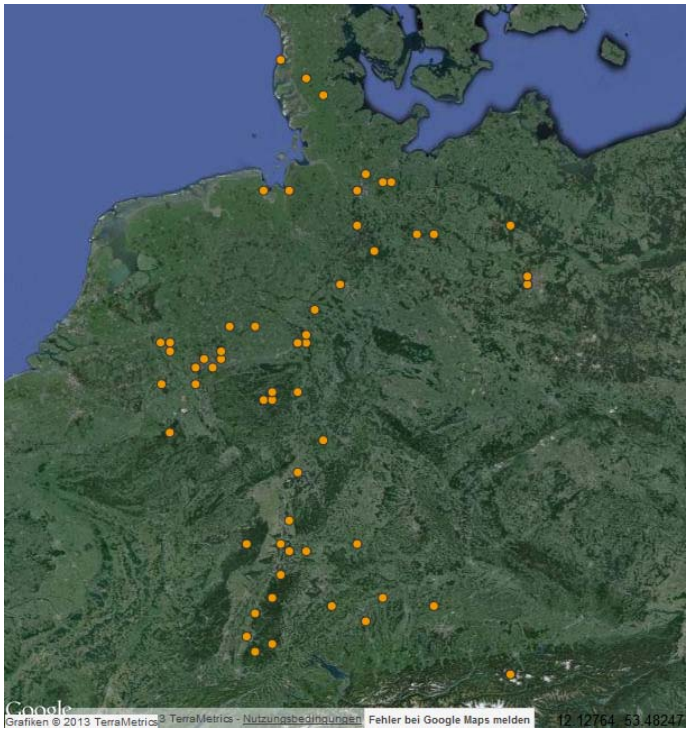
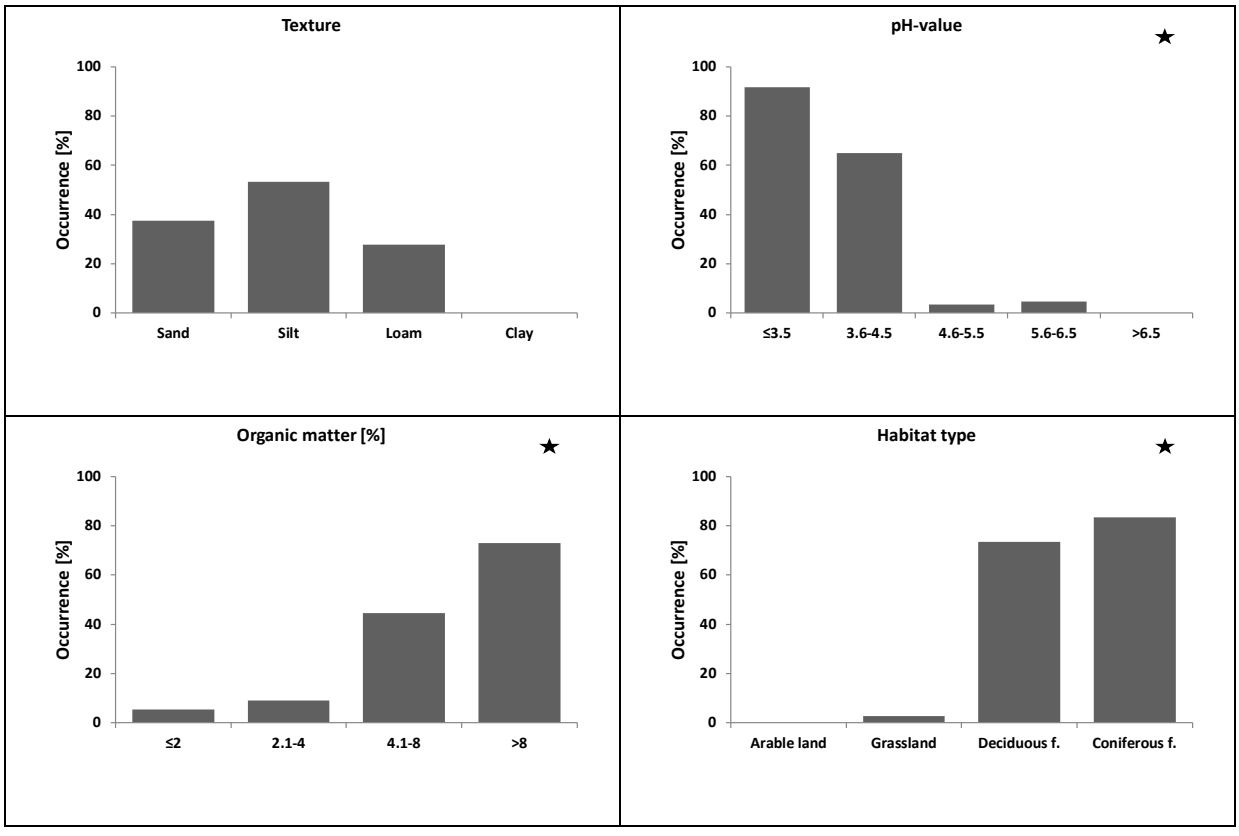



Fig. 65: Records of *M. clavata* from the sites in Germany analysed in this study.

Fig. 66: Relative frequency of *M. clavata* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Marionina communis*** Nielsen & Christensen, 1959

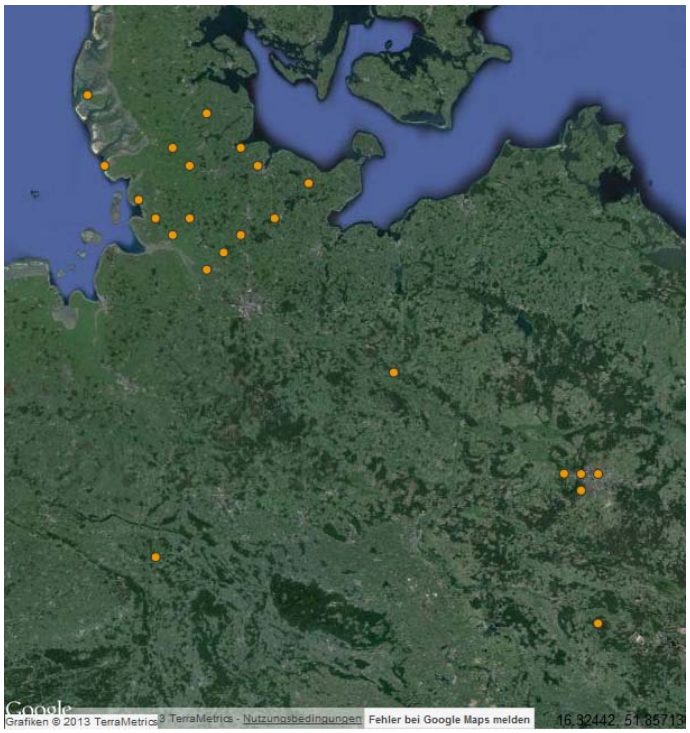
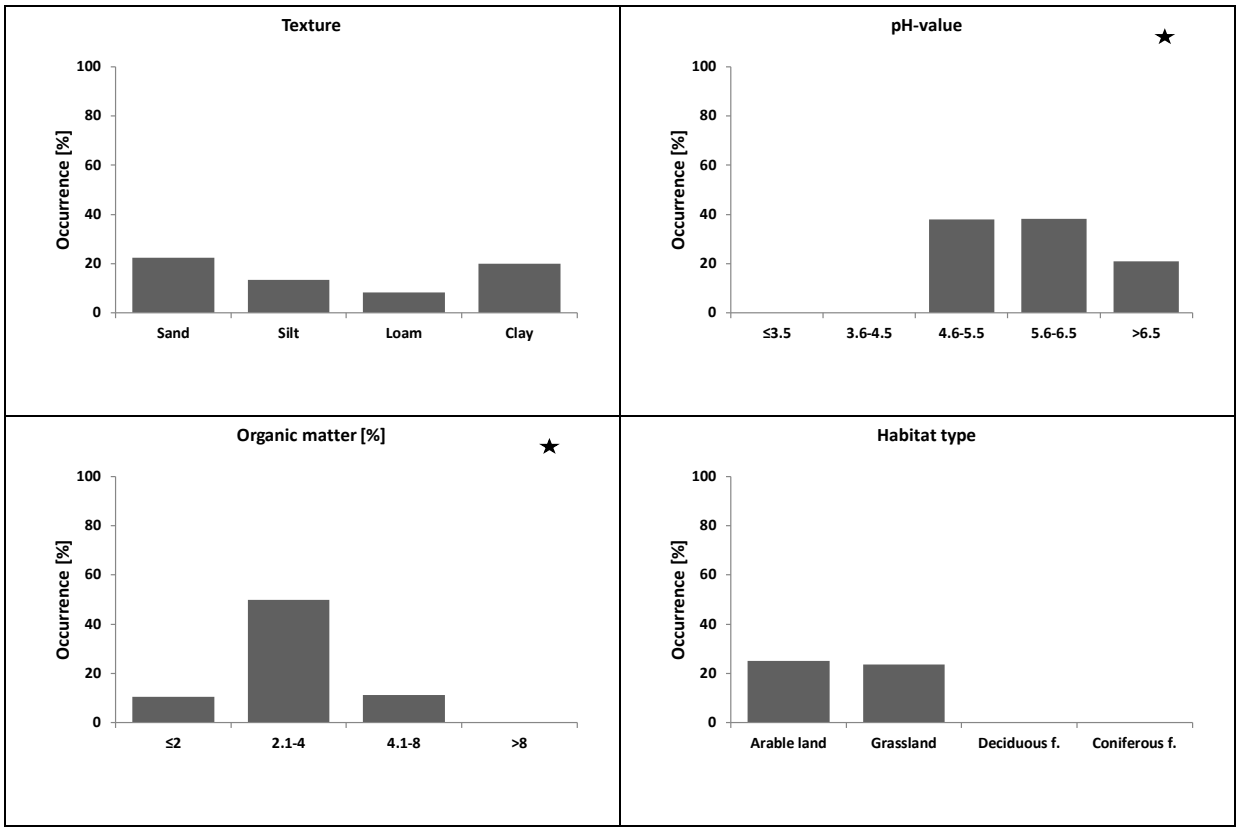



Fig. 67: Records of *M. communis* from the sites in Germany analysed in this study.

Fig. 68: Relative frequency of *M. communis* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Mesenchytraeus glandulosus*** (Levinsen, 1884)

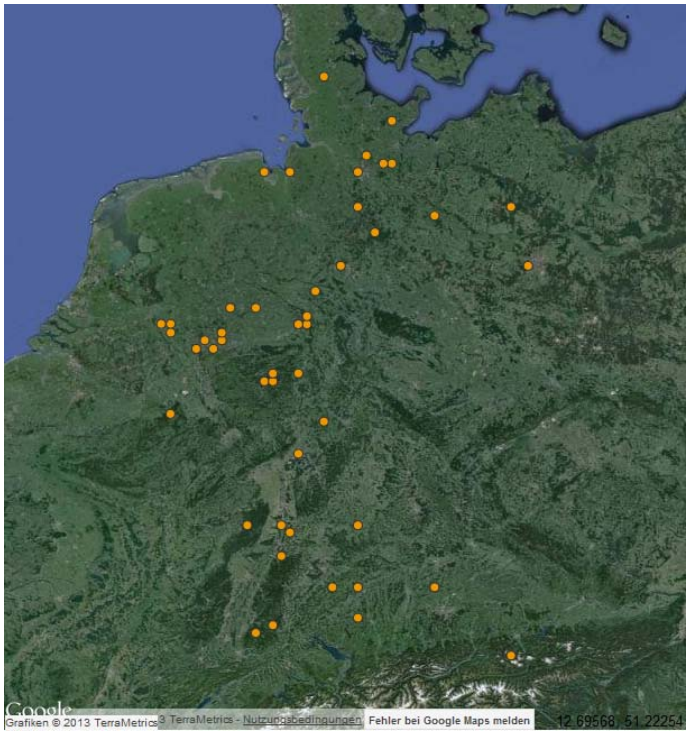
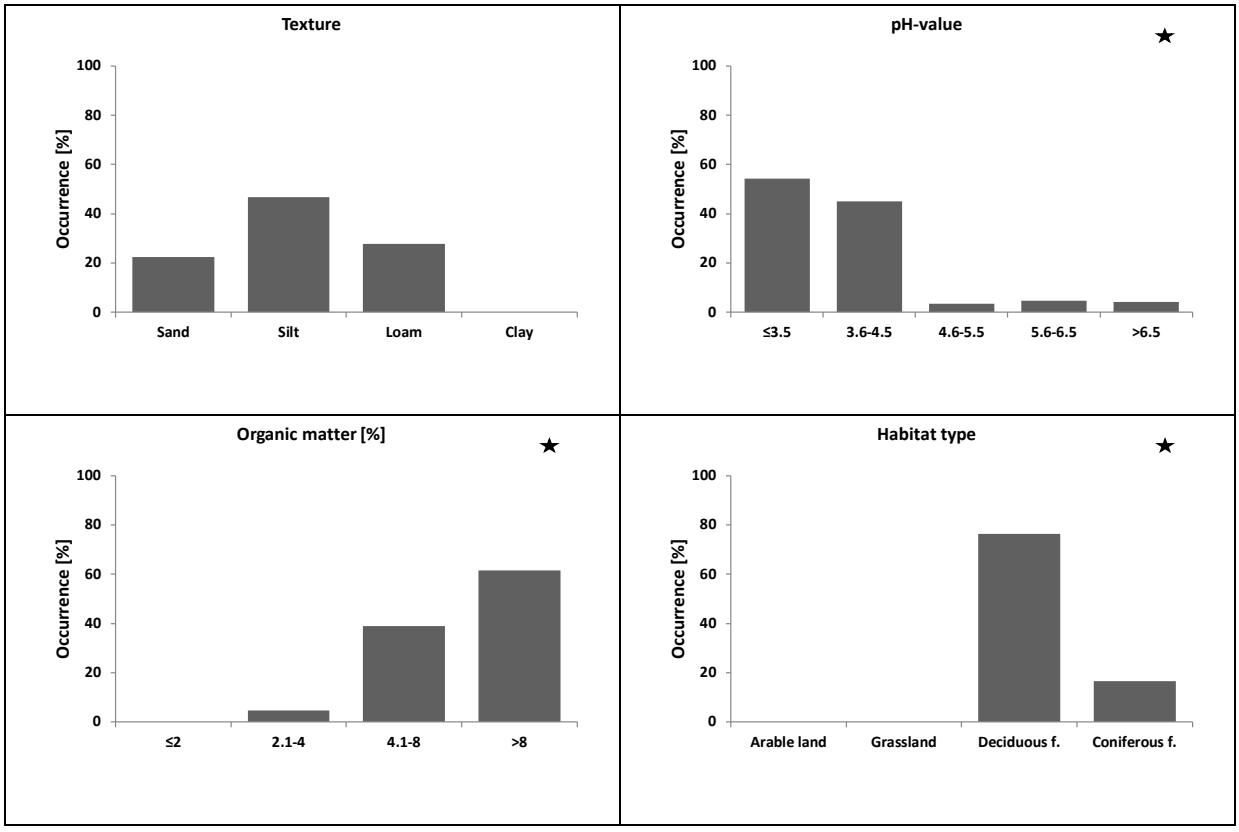



Fig. 69: Records of *M. glandulosus* from the sites in Germany analysed in this study.

Fig. 70: Relative frequency of *M. glandulosus* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Mesenchytraeus pelicensis*** Issel, 1905

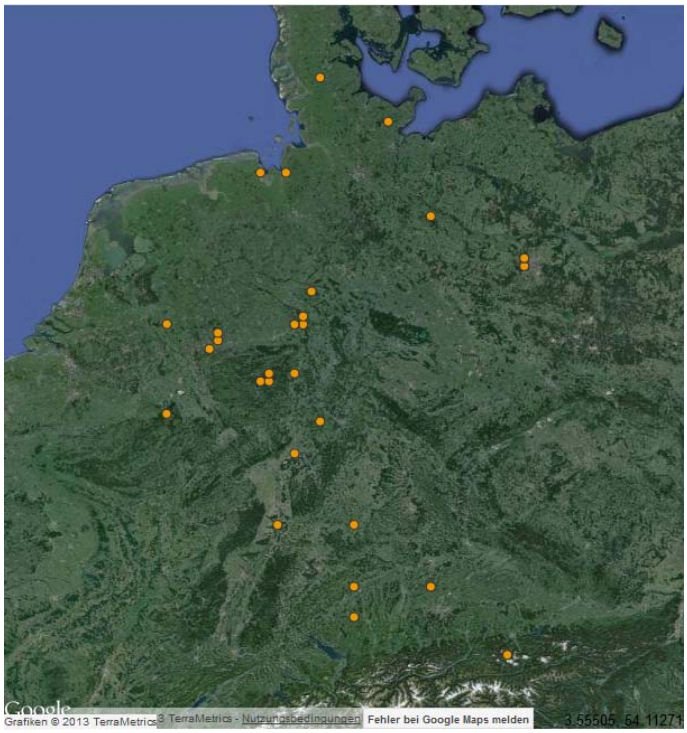
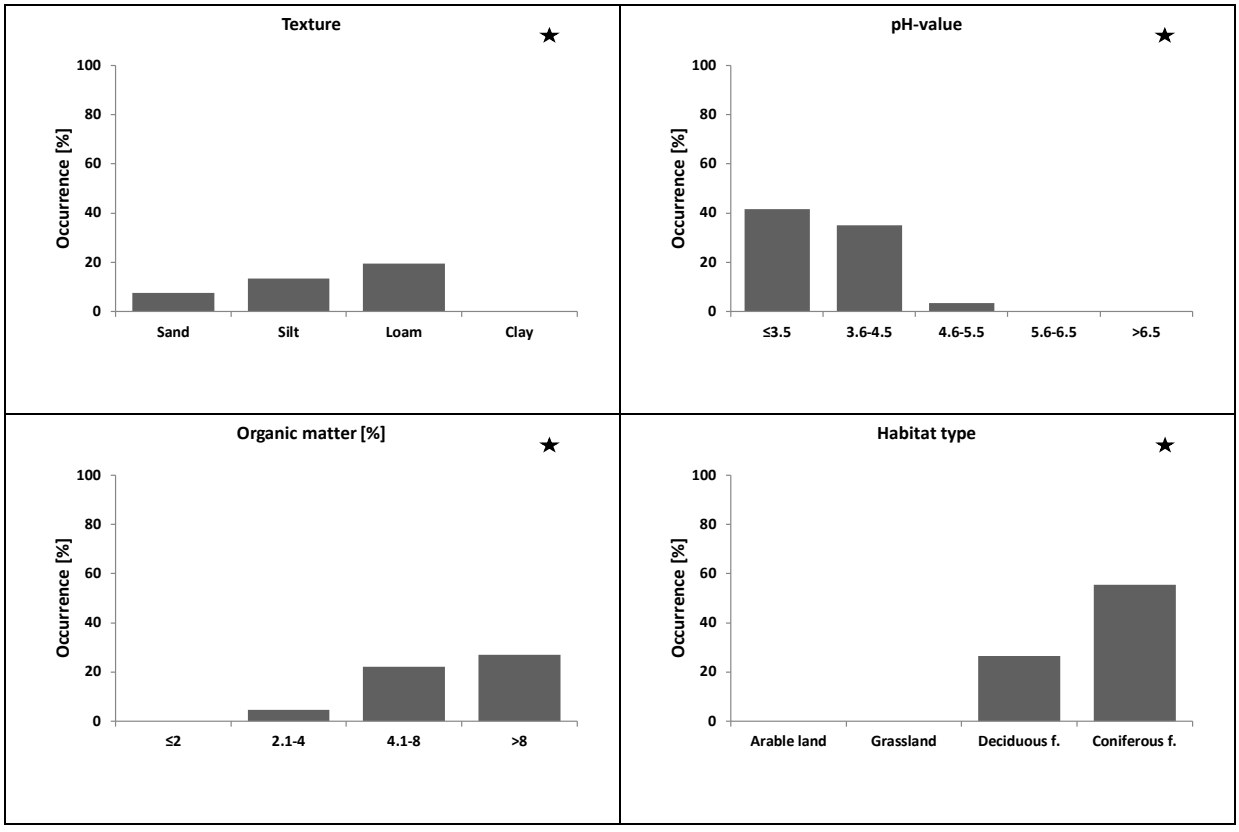



Fig. 71: Records of *M. pelicensis* from the sites in Germany analysed in this study.

Fig. 72: Relative frequency of *F. pelicensis* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).



***Oconnorella cambrensis*** (O'Connor, 1963)

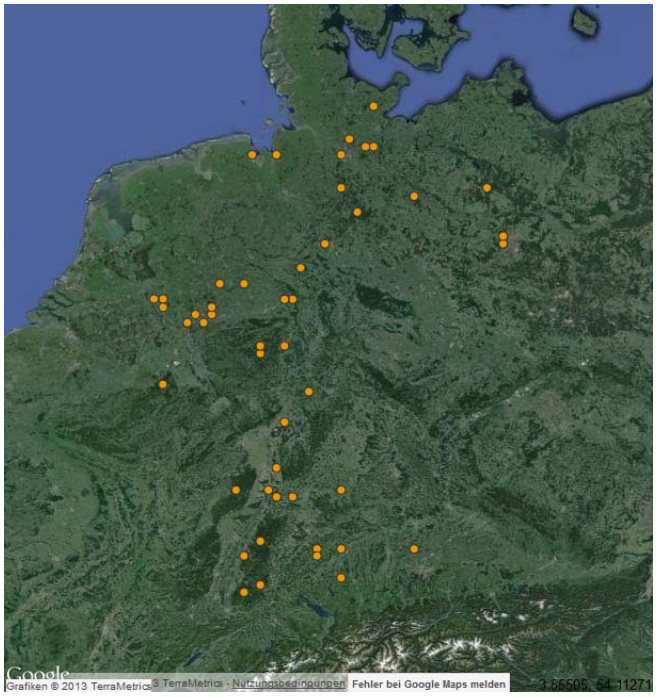



Fig. 73: Records of *O. cambrensis* from the sites in Germany analysed in this study.

Fig. 74: Relative frequency of *O. cambrensis* in sites with different soil properties. Data basis: number of sites at which this species was found (Table 1 in main paper). Star: statistically significant difference ($Chi^2$-Test).

