

## 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.

***Achaeta aberrans* Nielsen & Christensen, 1961**

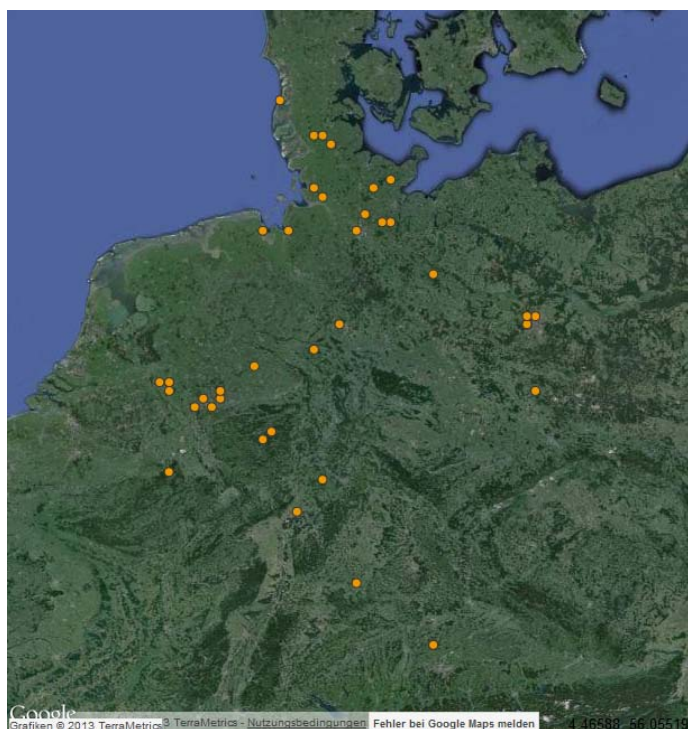
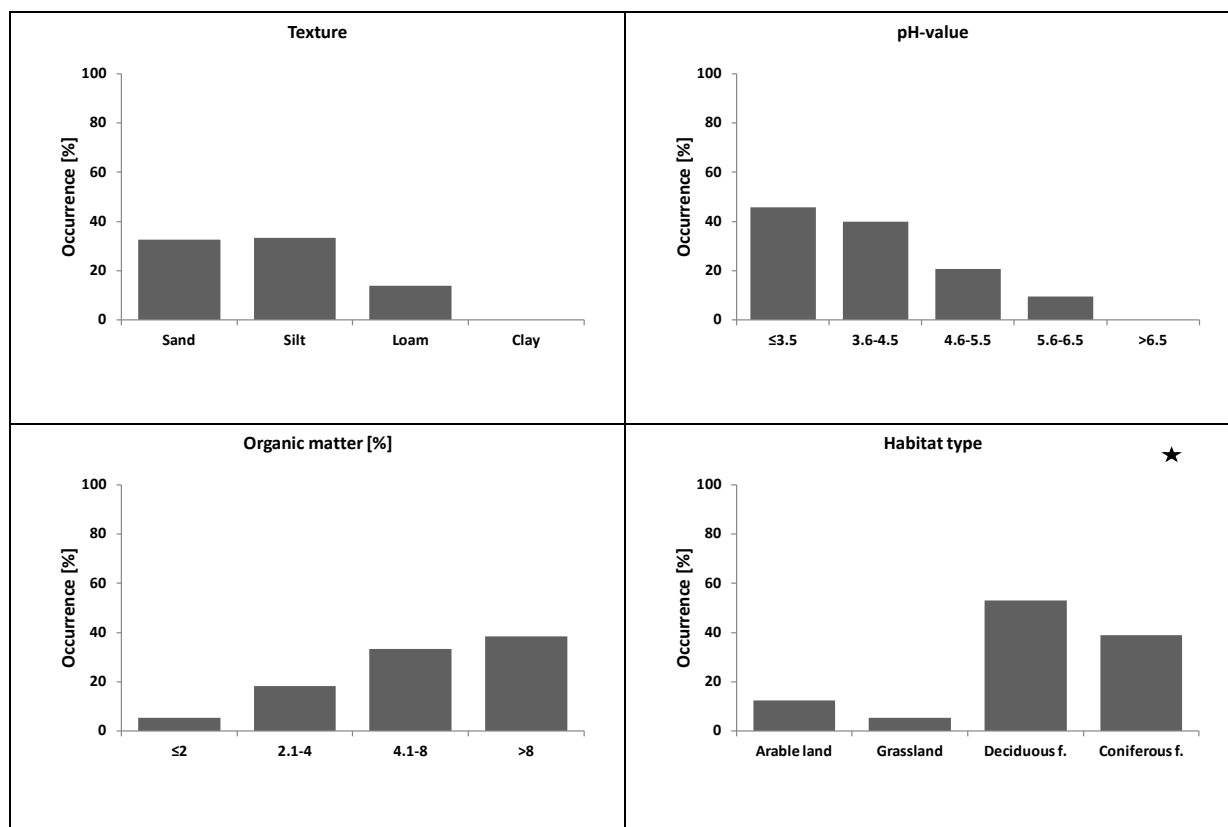


Fig. 1: Records of *A. aberrans* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



***Achaeta abulba*** Graefe, 1989

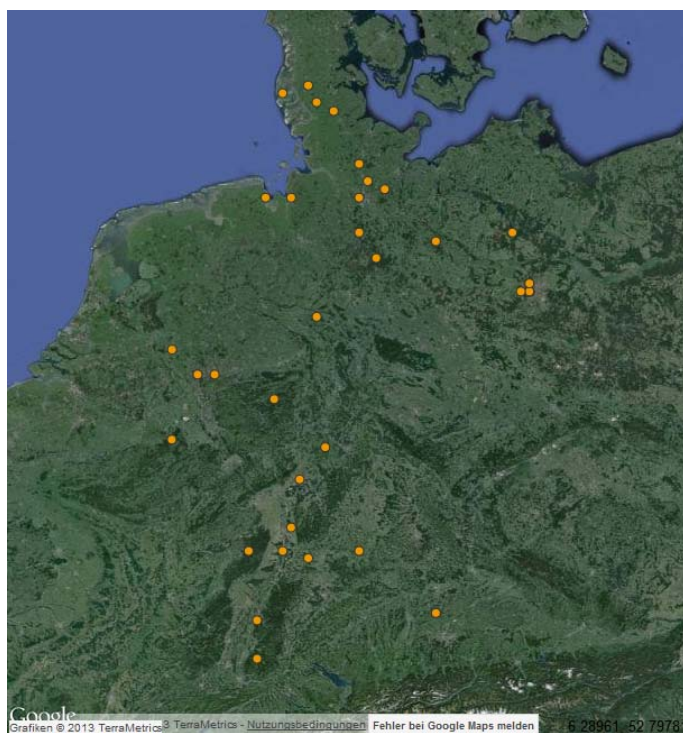
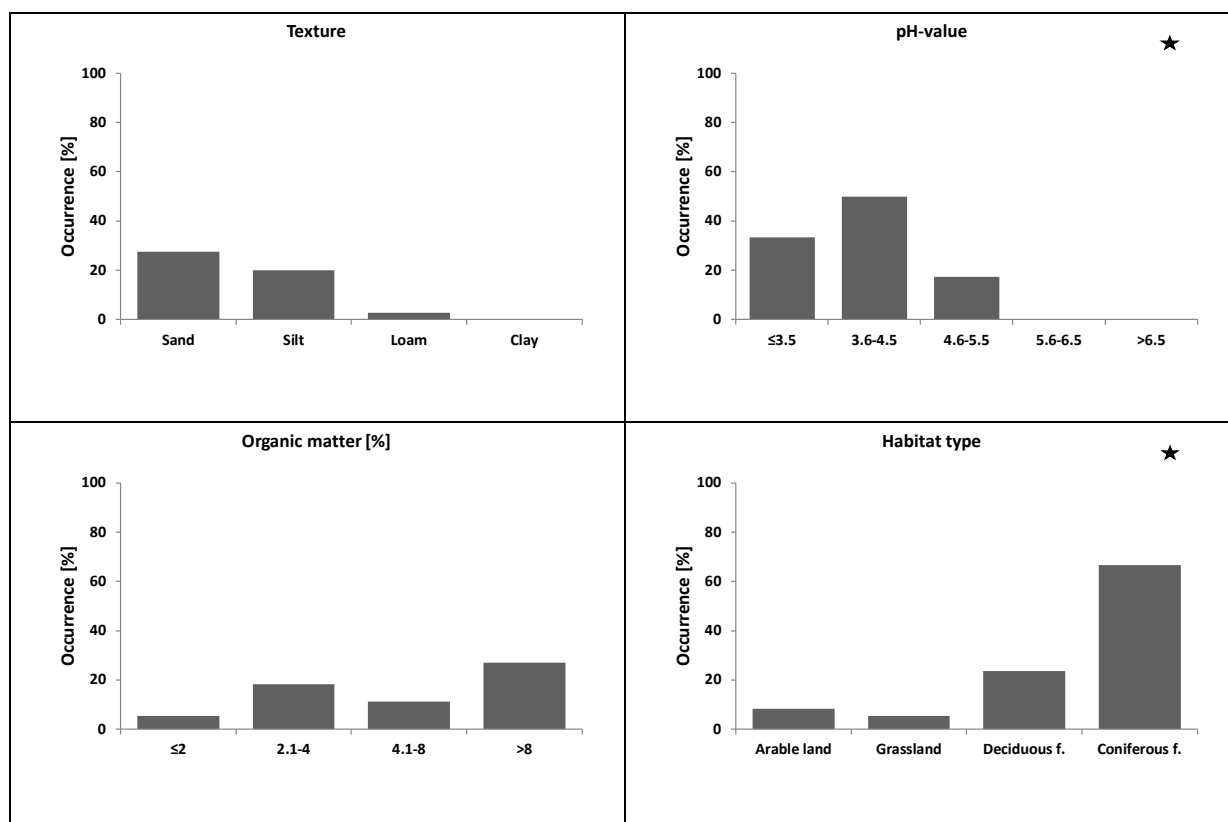


Fig. 3: Records of *A. Abulba* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



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

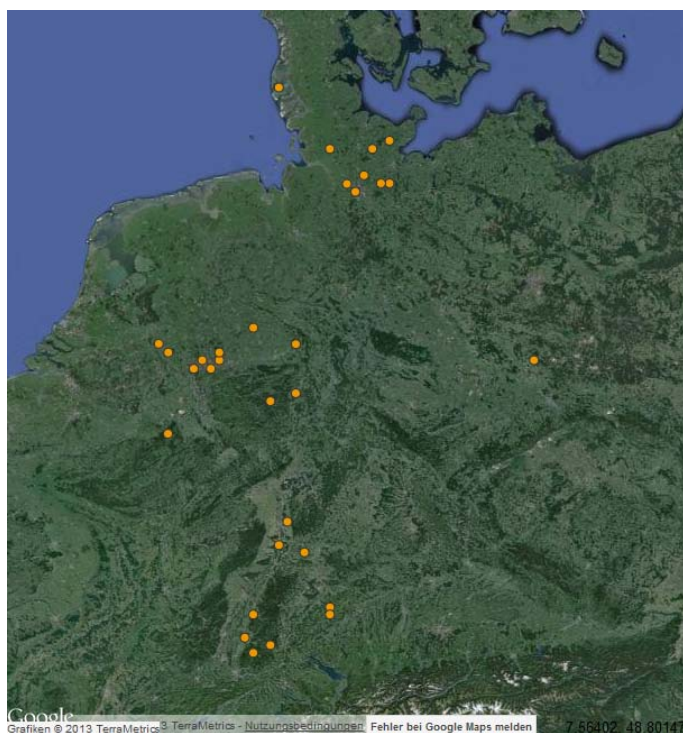
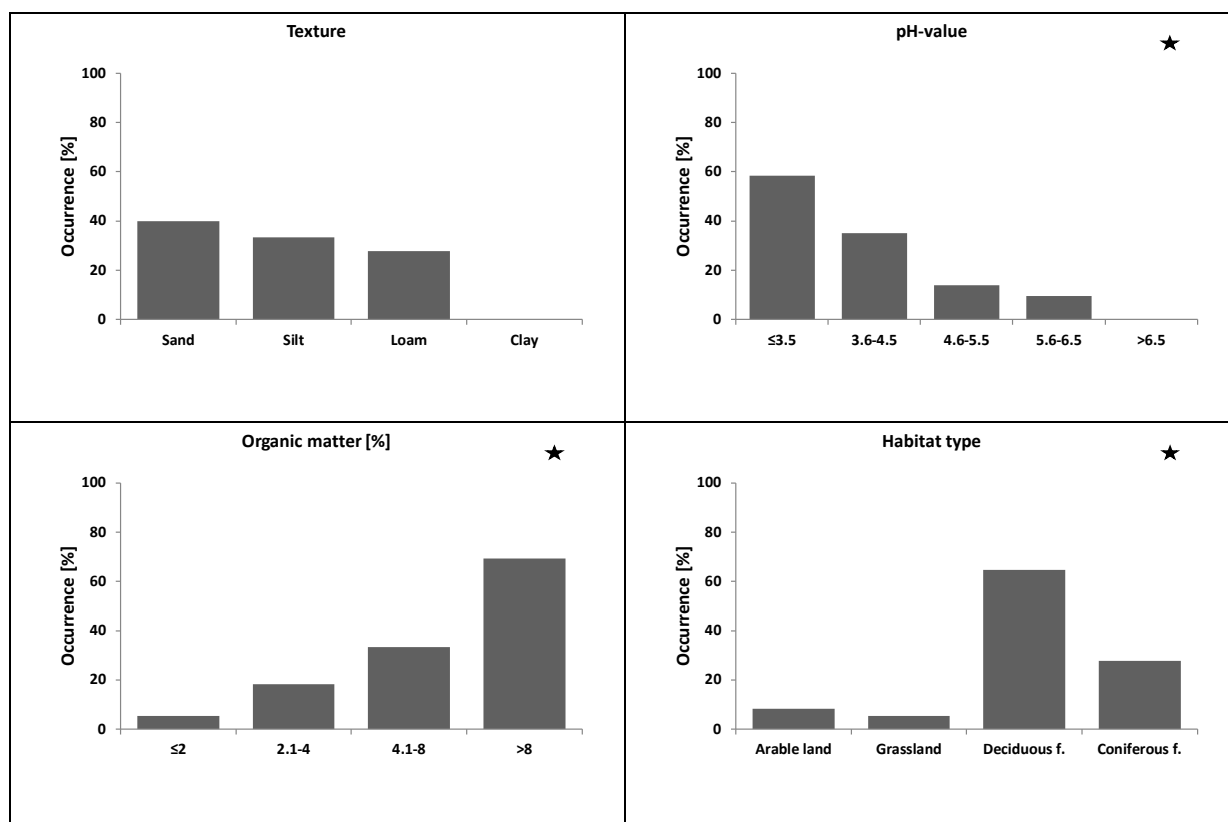


Fig. 5: Records of *A. affinis* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



***Achaeta bibulba*** Graefe, 1989

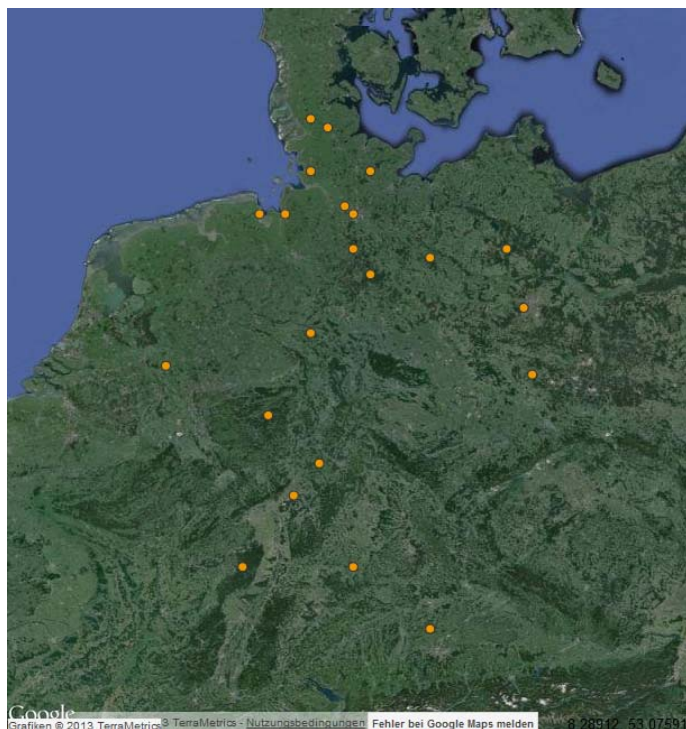
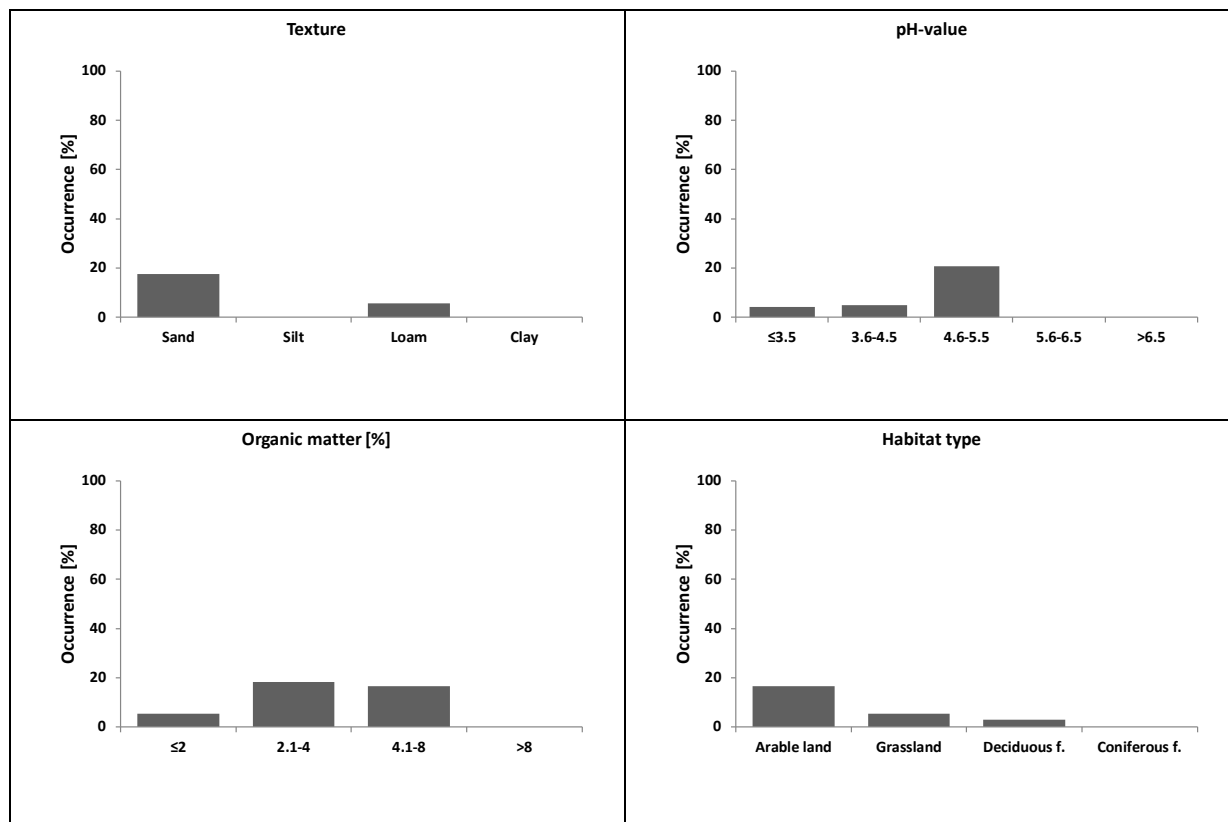


Fig. 7: Records of *A. bibulba* from the sites in Germany analysed in this study.

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).



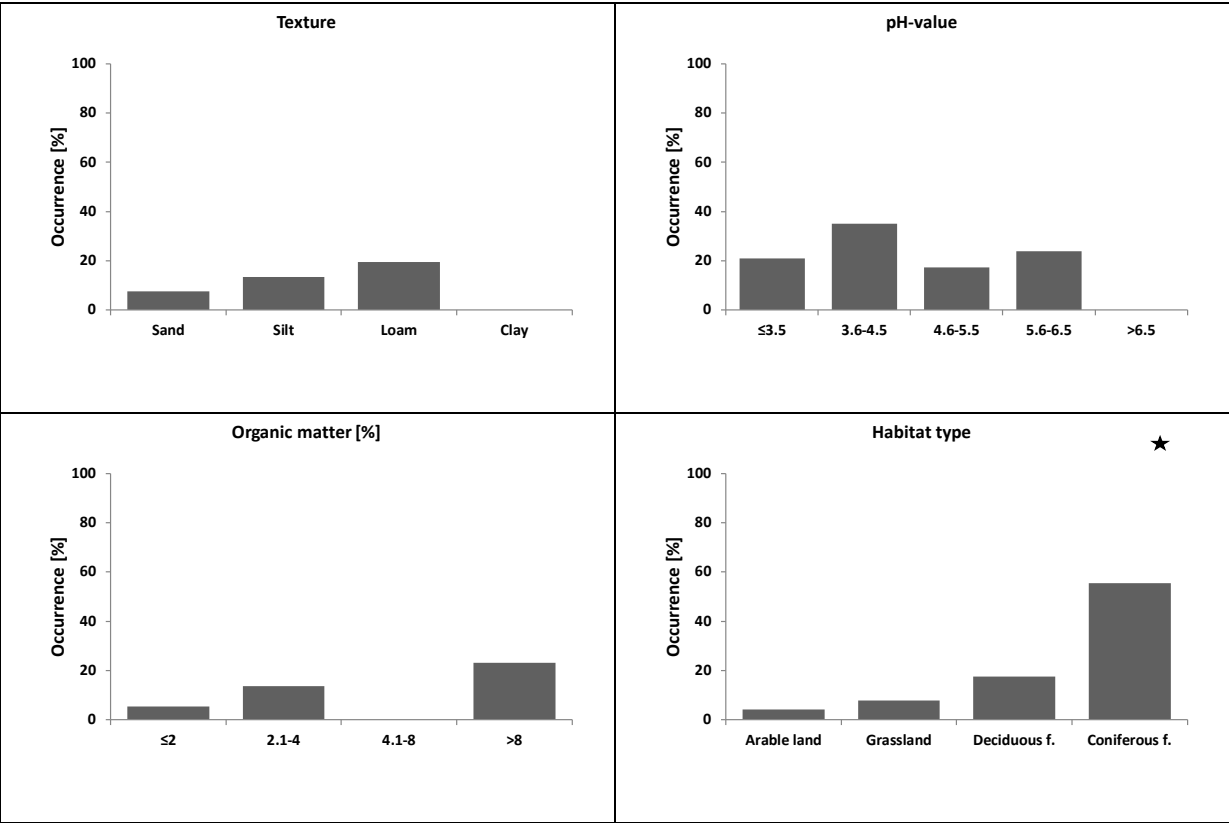


*Achaeta bohemica* (Vejdovský, 1879)



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<sup>2</sup>-Test).

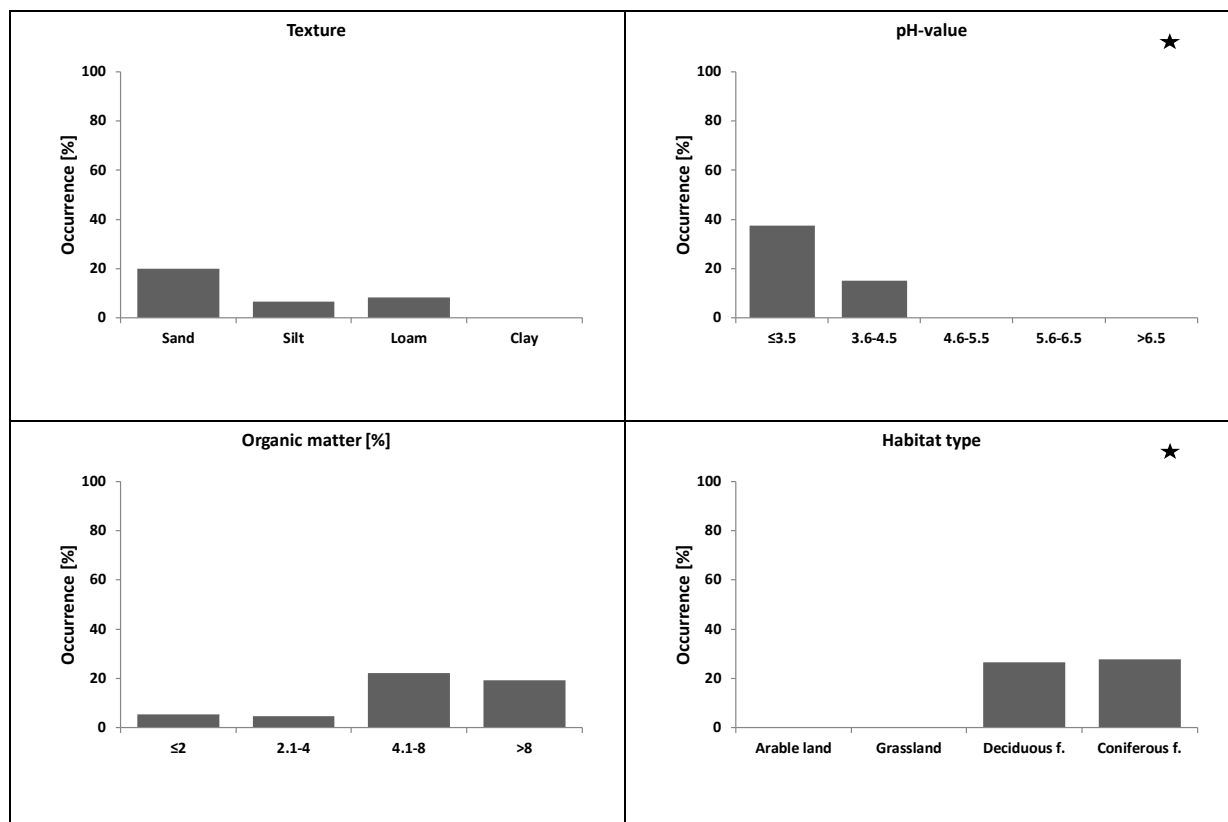


*Achaeta brevivasa* Graefe, 1980



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<sup>2</sup>-Test).



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

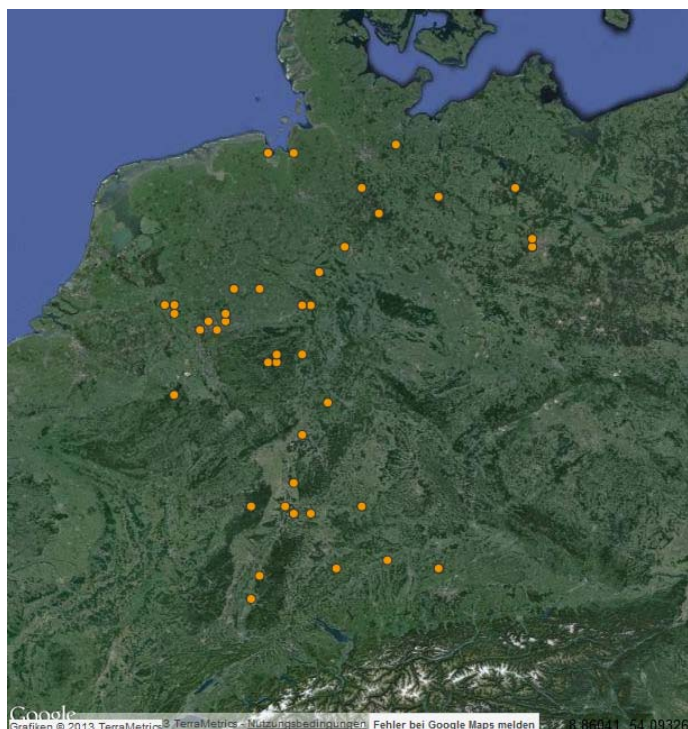
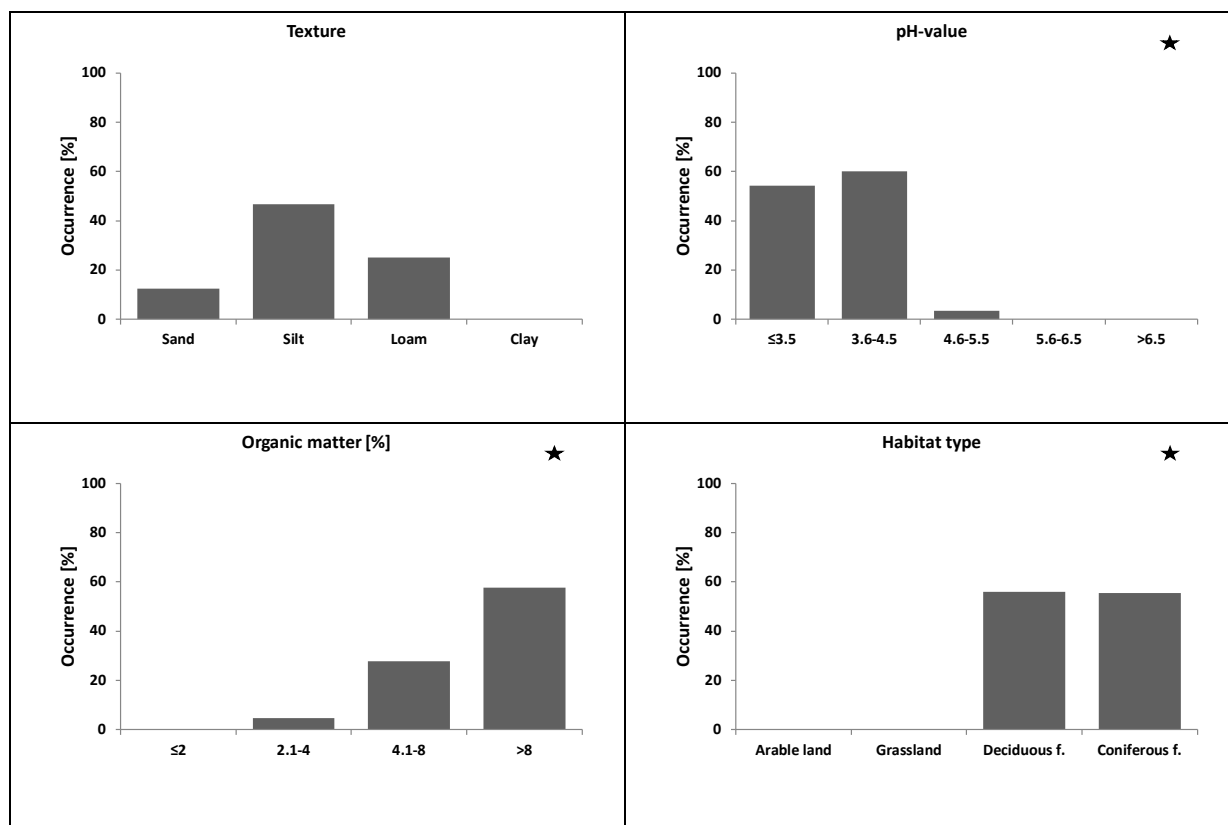


Fig. 13: Records of *A. camerani* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





*Achaeta pannonica* Graefe, 1989

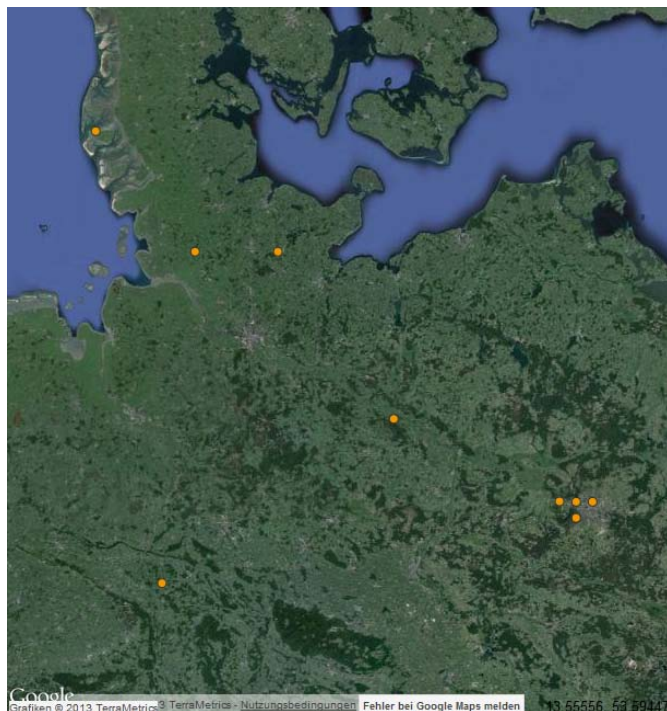
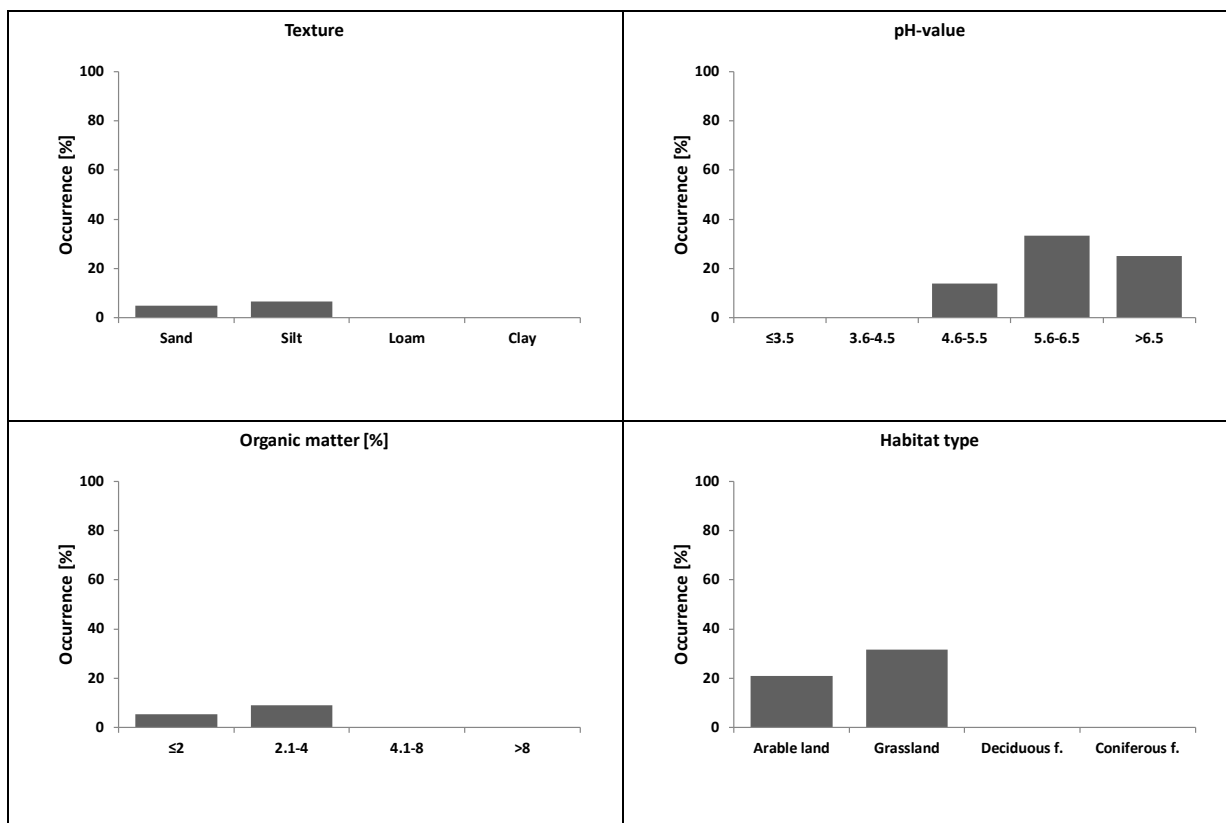


Fig. 15: Records of *A. pannonica* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).

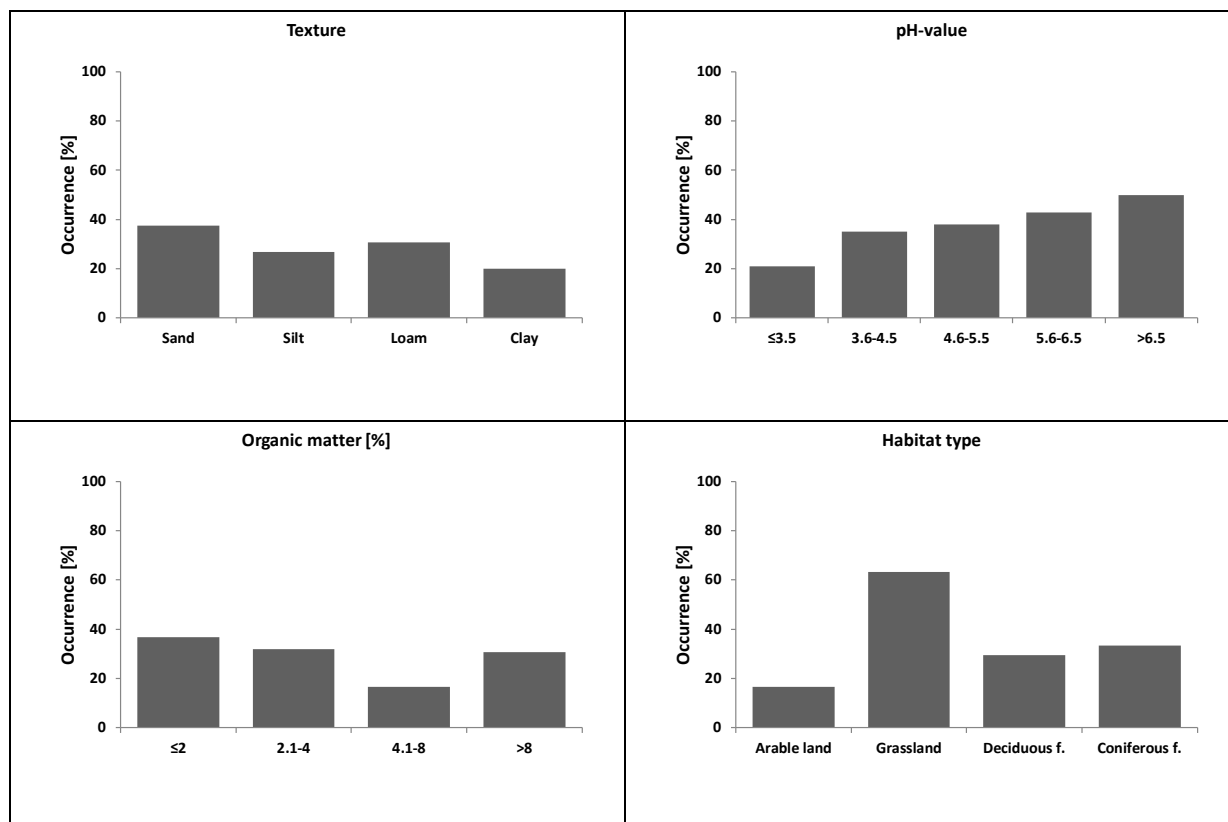


***Buchholzia appendiculata*** (Buchholz, 1862)



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<sup>2</sup>-Test).



*Enchytraeus buchholzi* Vejdovský, 1879

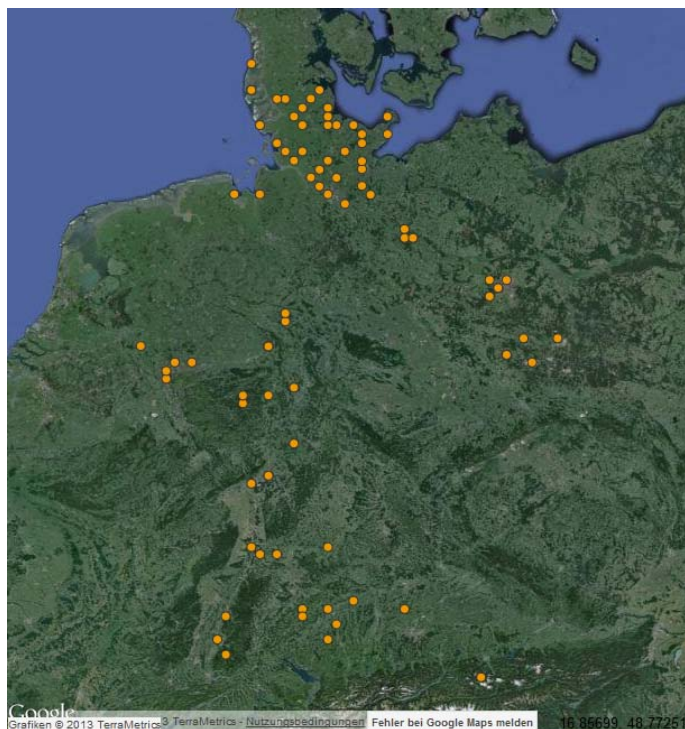
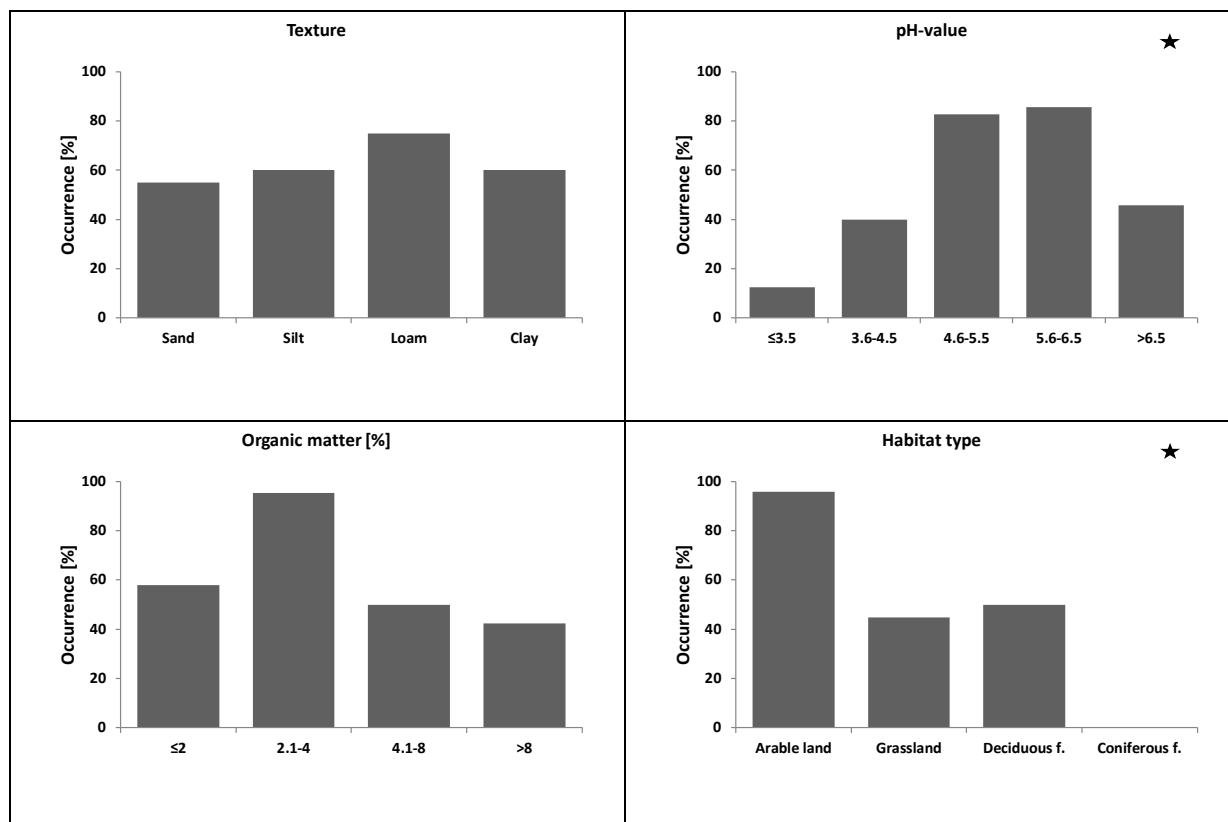


Fig. 19: Records of *E. buchholzi* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Enchytraeus bulbosus* Nielsen & Christensen, 1963

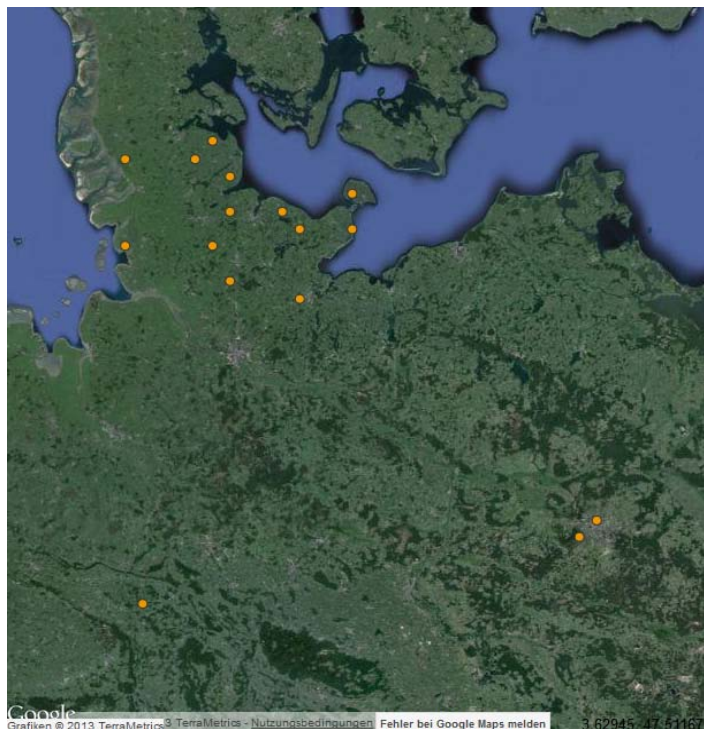
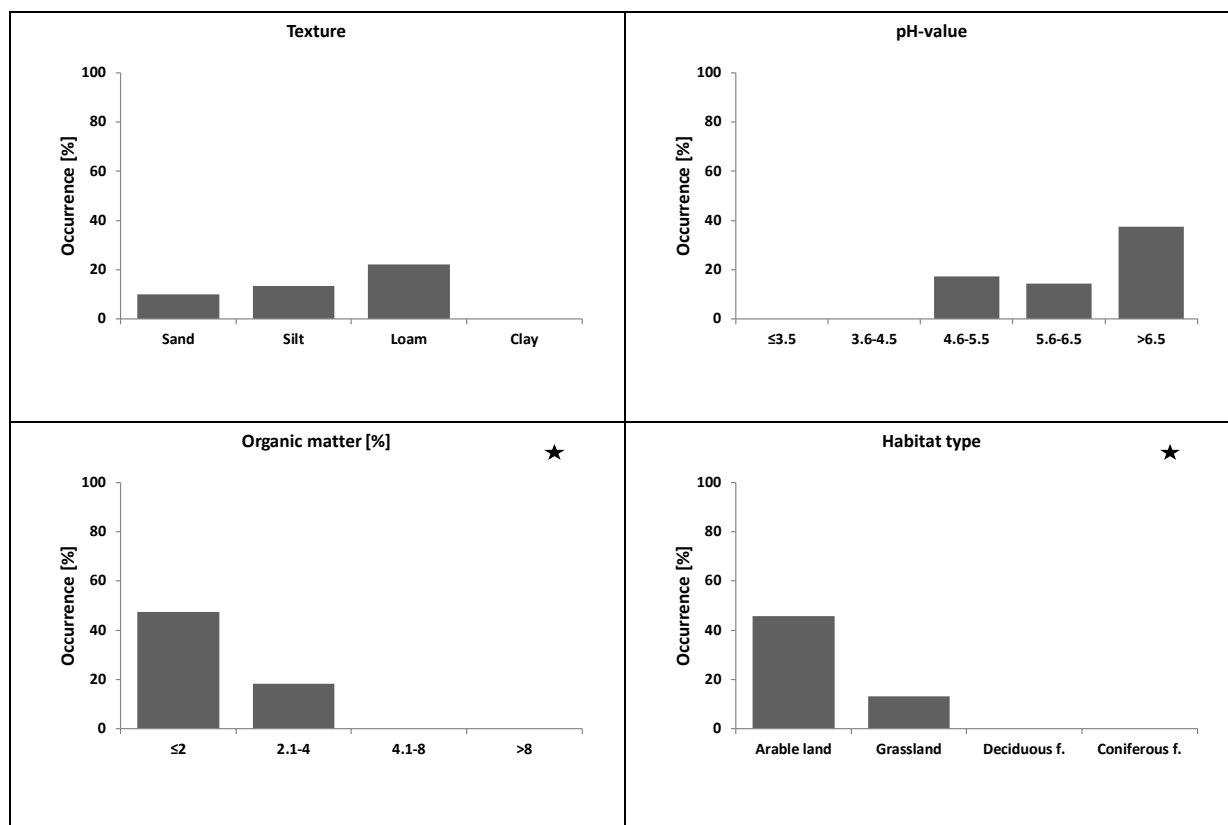


Fig. 21: Records of *E. bulbosus* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





*Enchytraeus christenseni* Dózsa-Farkas, 1992

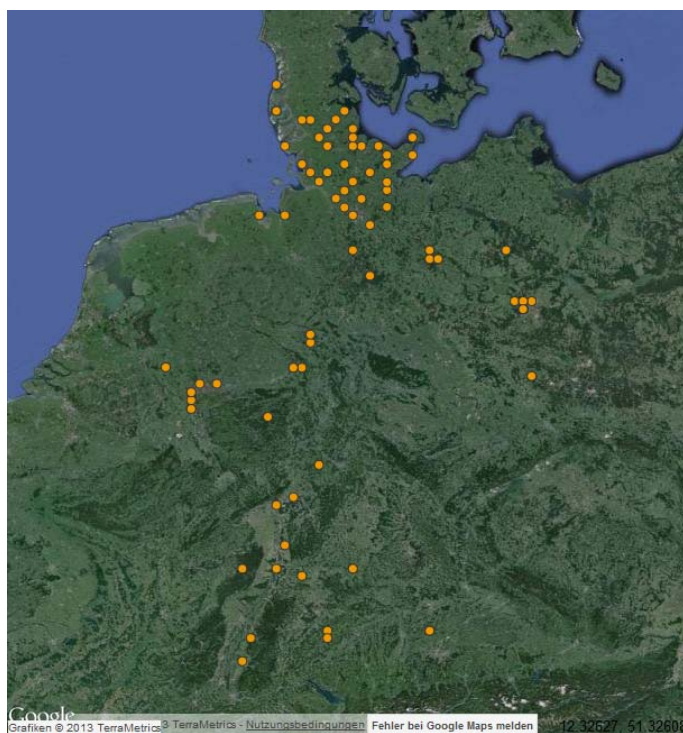
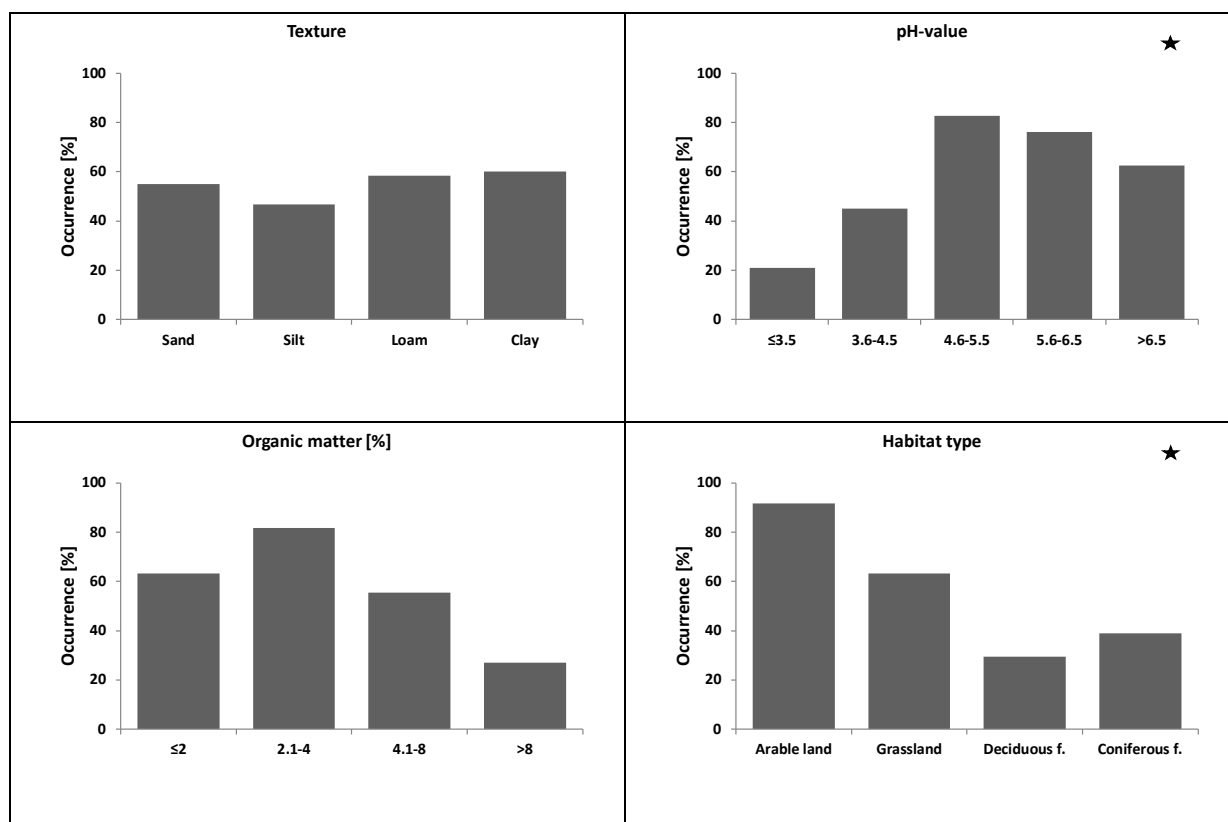


Fig. 23: Records of *E. christenseni* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





*Enchytraeus lacteus* Nielsen & Christensen, 1961

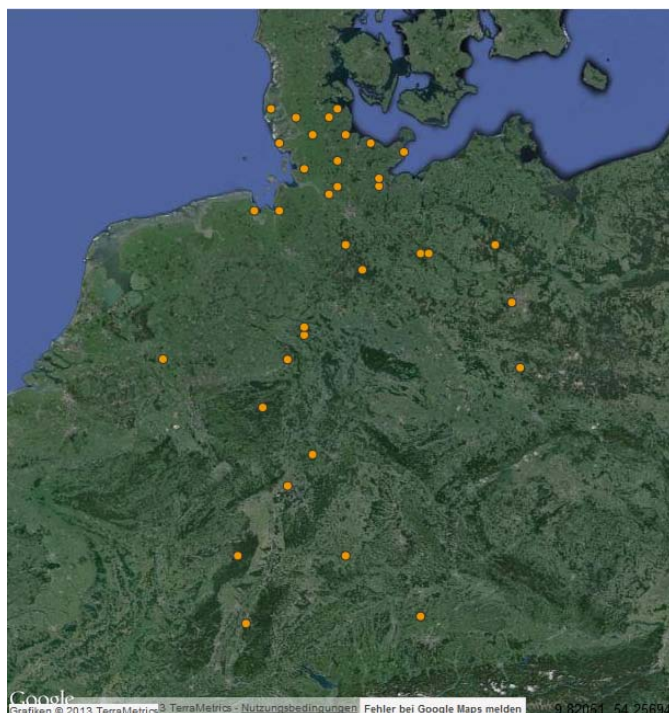
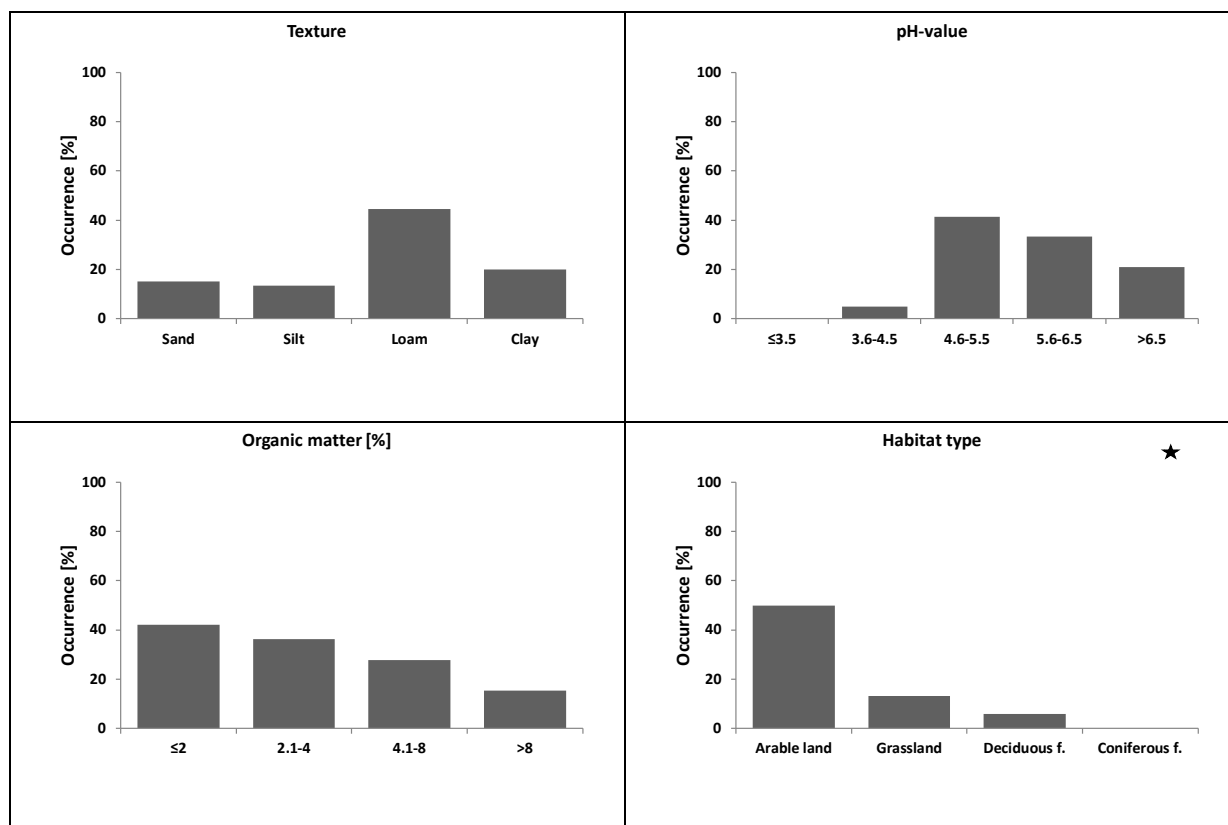


Fig. 25: Records of *E. lacteus* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Enchytraeus norvegicus* Abrahamson, 1969

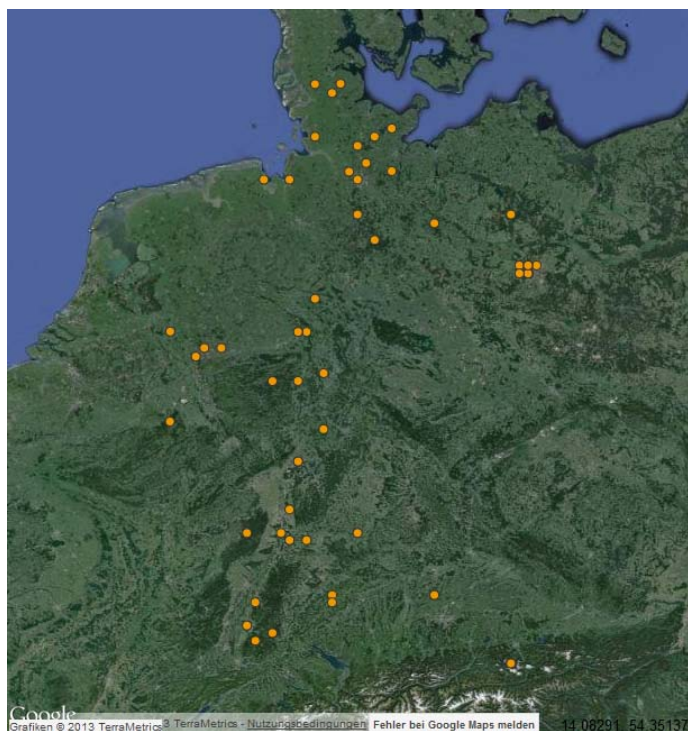
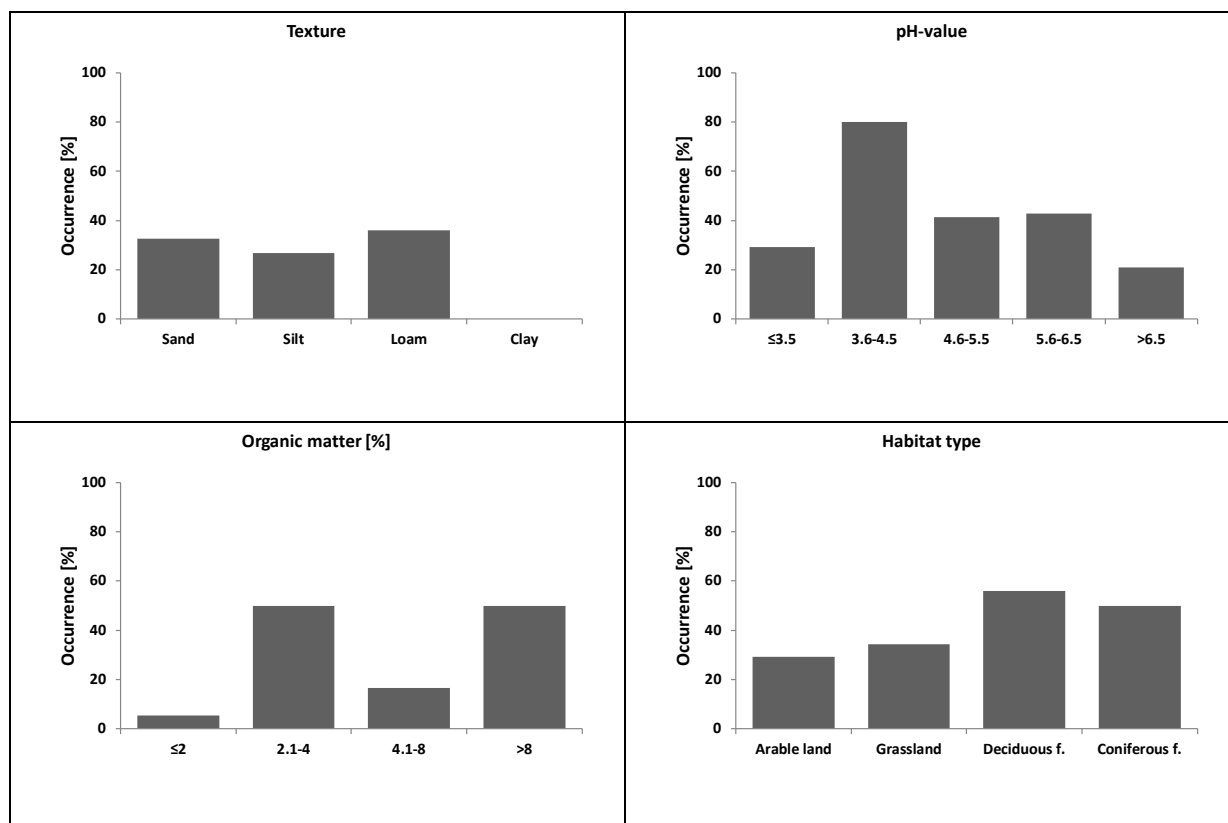


Fig. 27: Records of *E. norvegicus* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Enchytronia annulata* Nielsen & Christensen, 1959

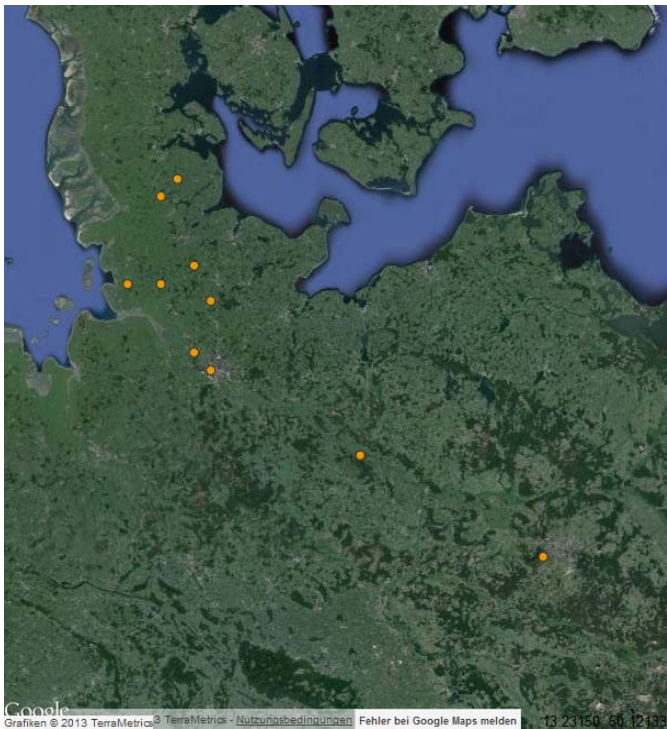
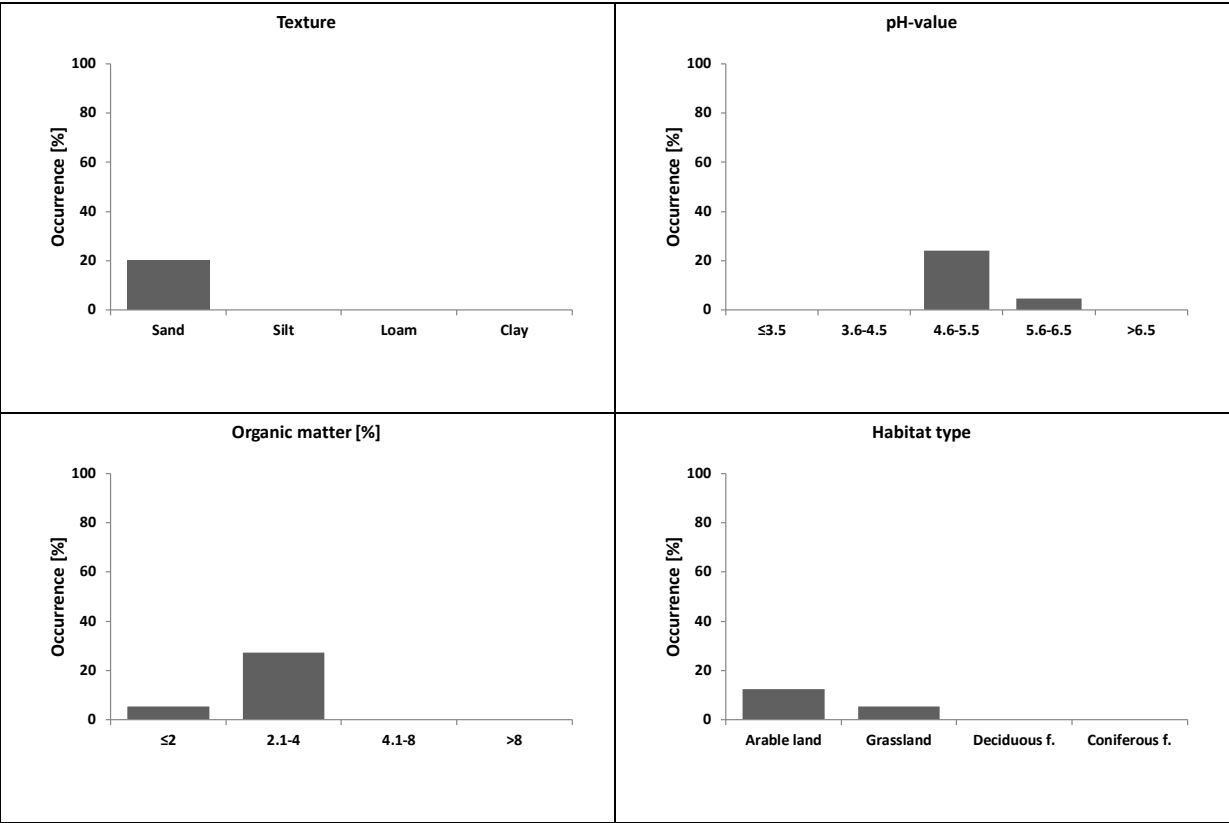


Fig. 29: Records of *E. annulata* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).

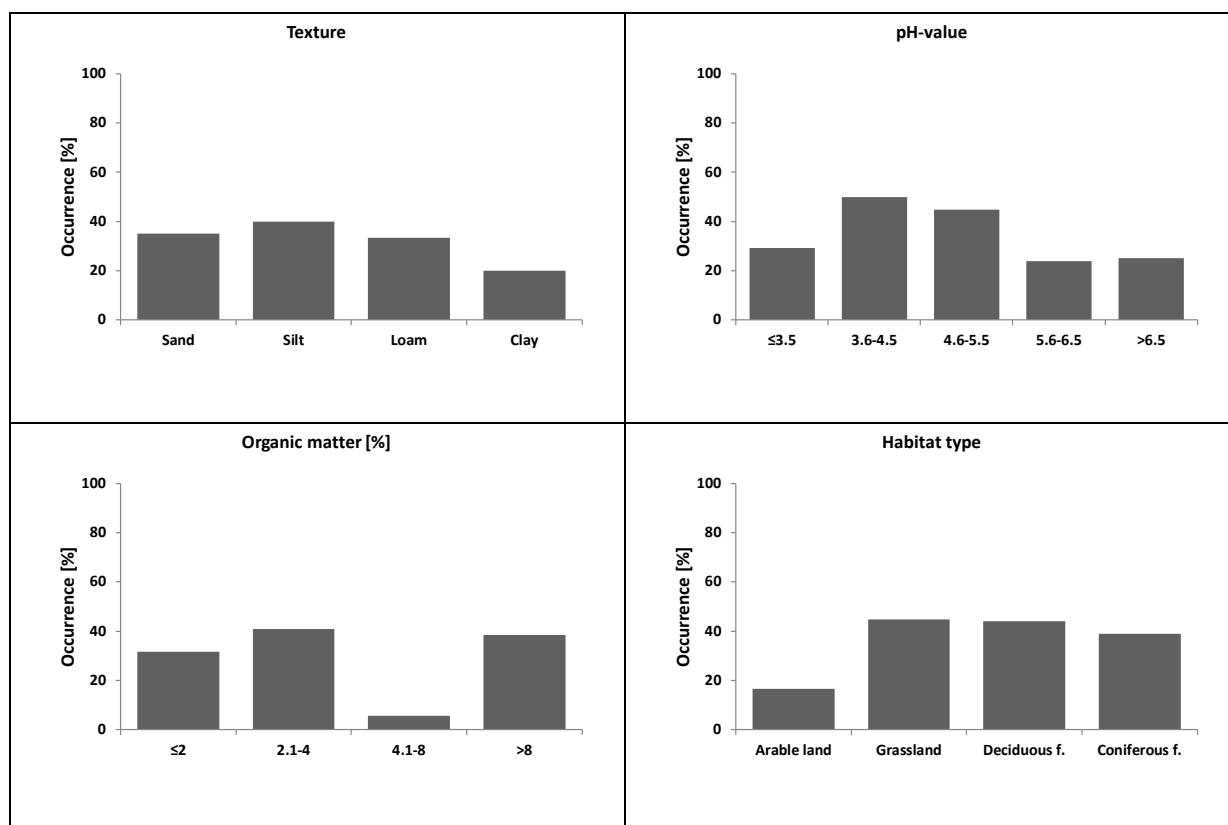


*Enchytronia parva* Nielsen & Christensen, 1959



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<sup>2</sup>-Test).



***Enchytronia pratensis* Chalupský, 1994**

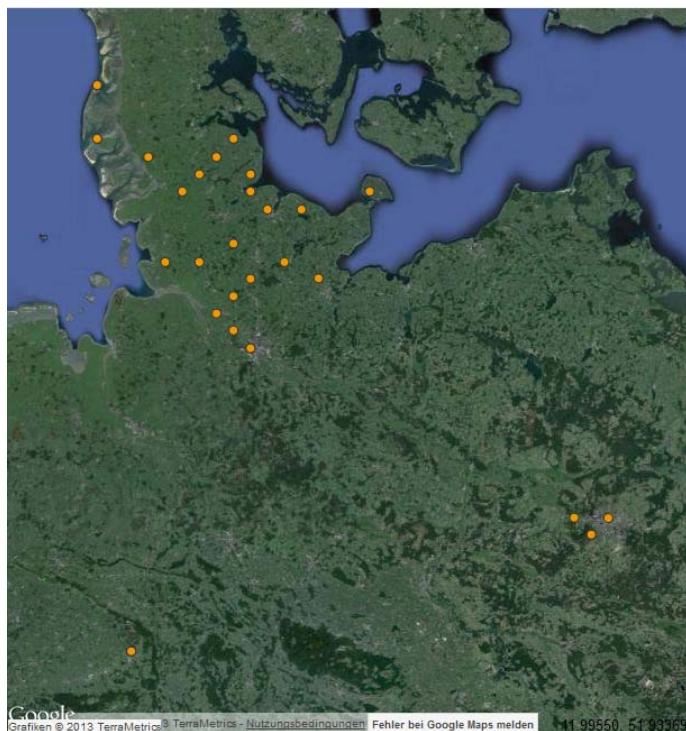
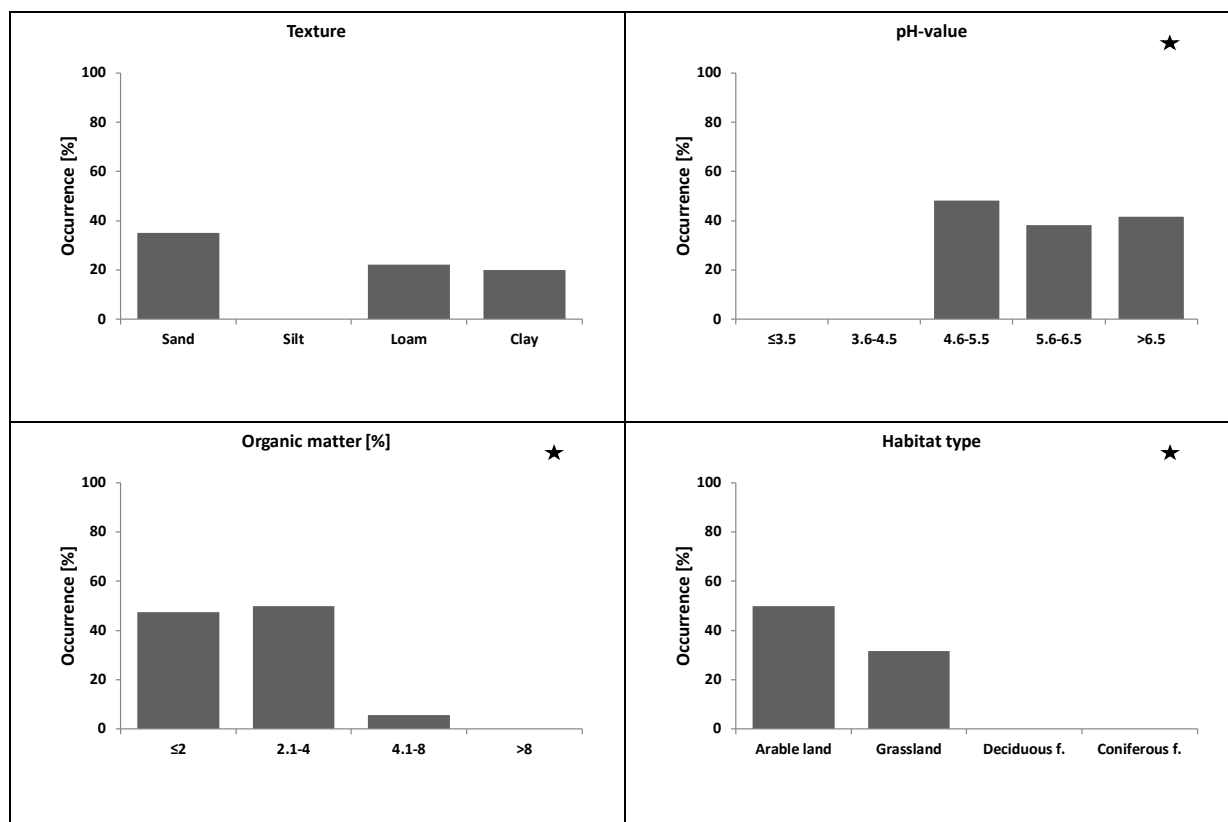


Fig. 33: Records of *E. pratensis* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





***Fridericia benti*** Schmelz, 2002

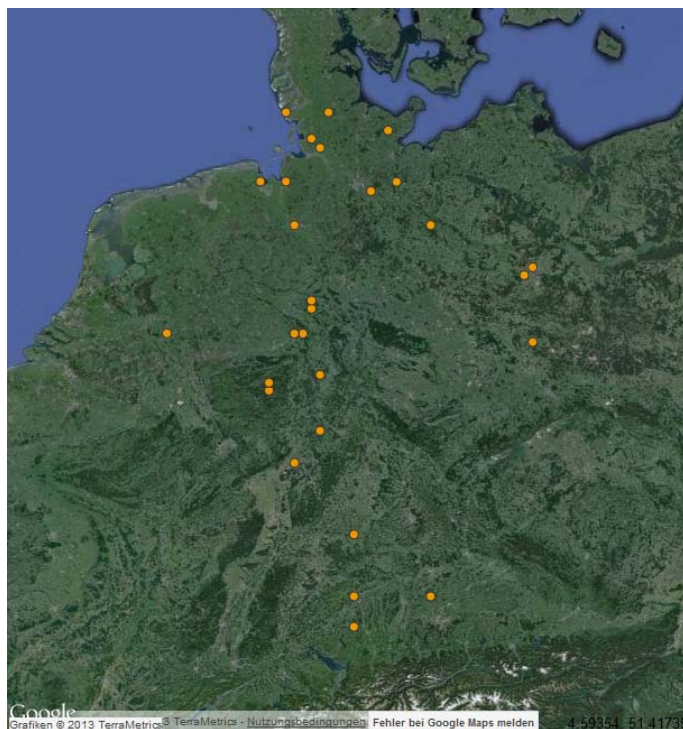
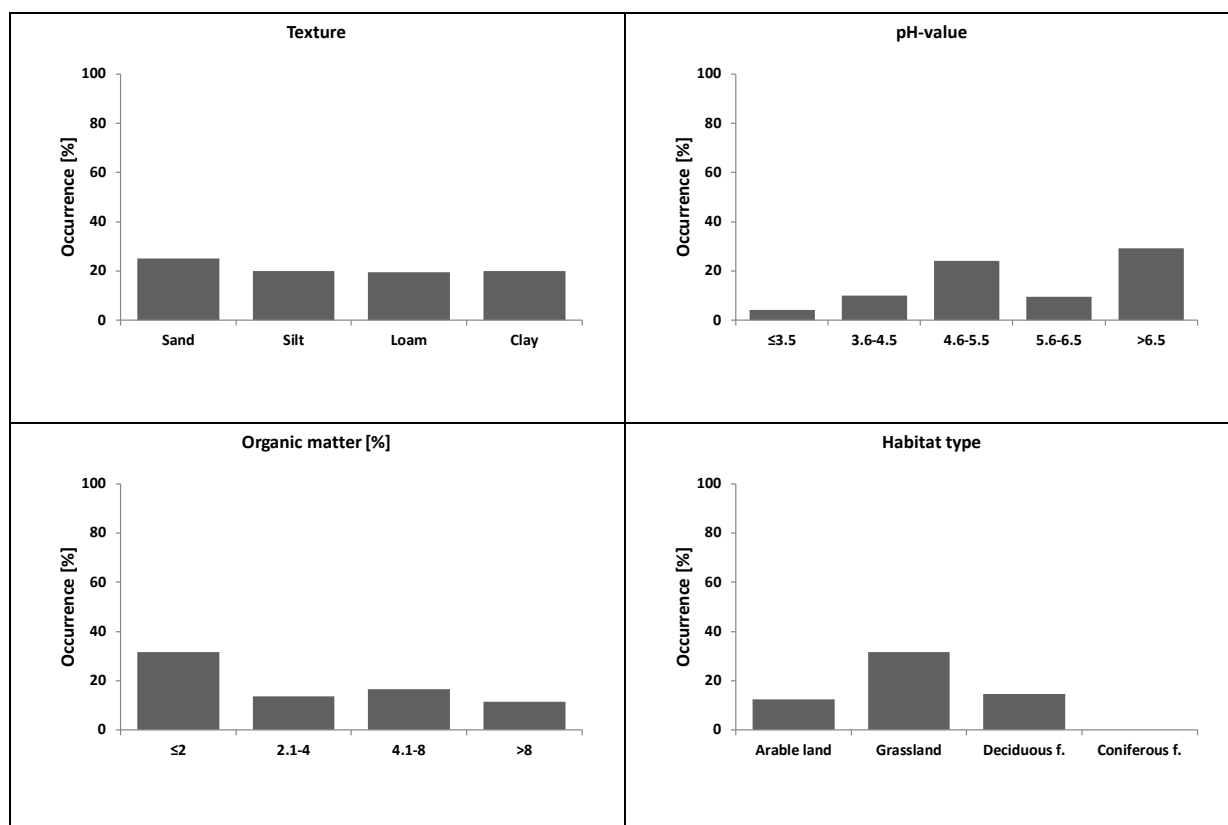


Fig. 35: Records of *F. benti* from the sites in Germany analysed in this study.

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)

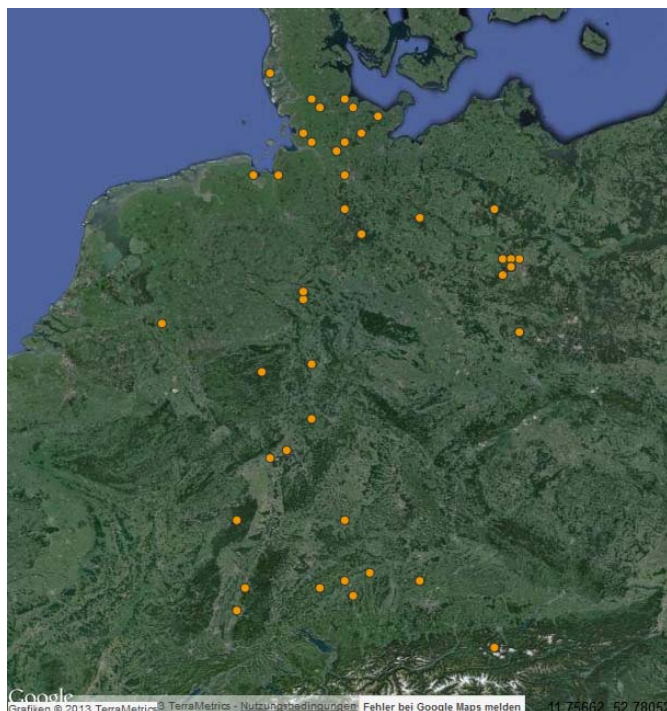
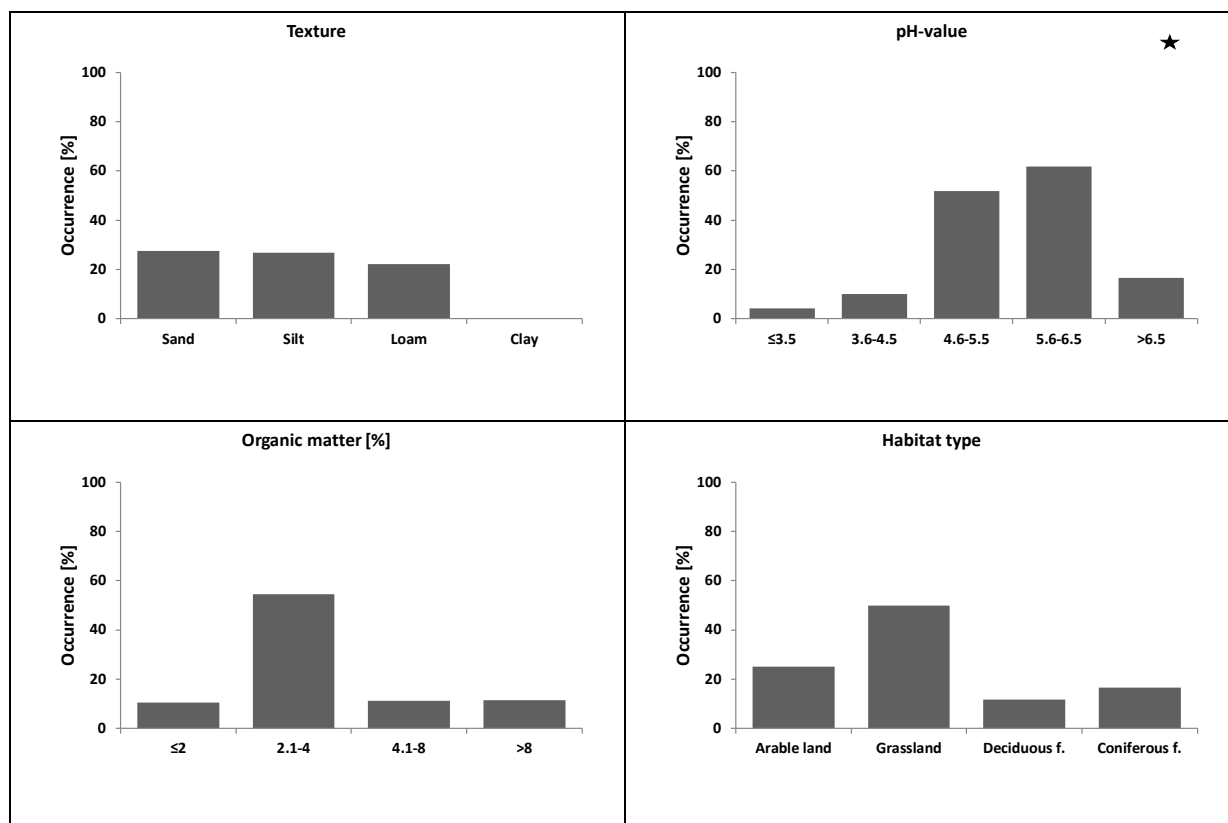


Fig. 37: Records of *F. bisetosa* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Fridericia bulboides* Nielsen & Christensen, 1959

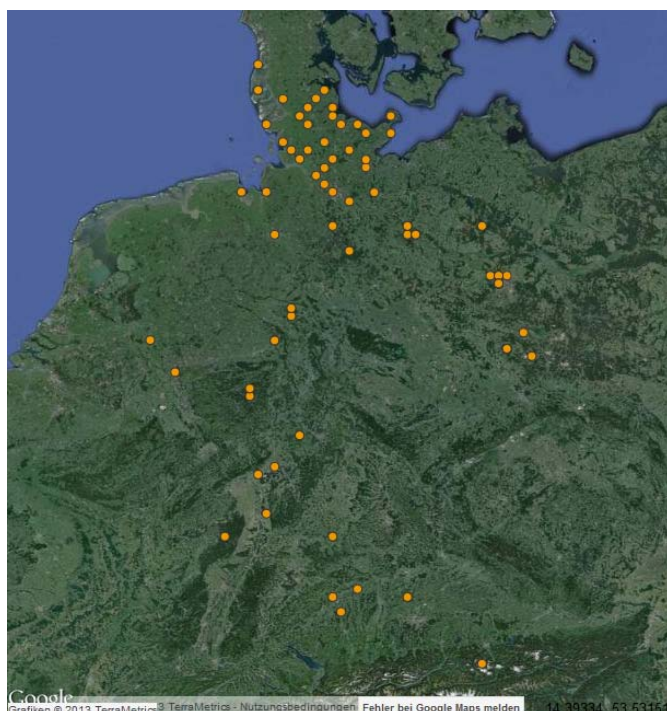
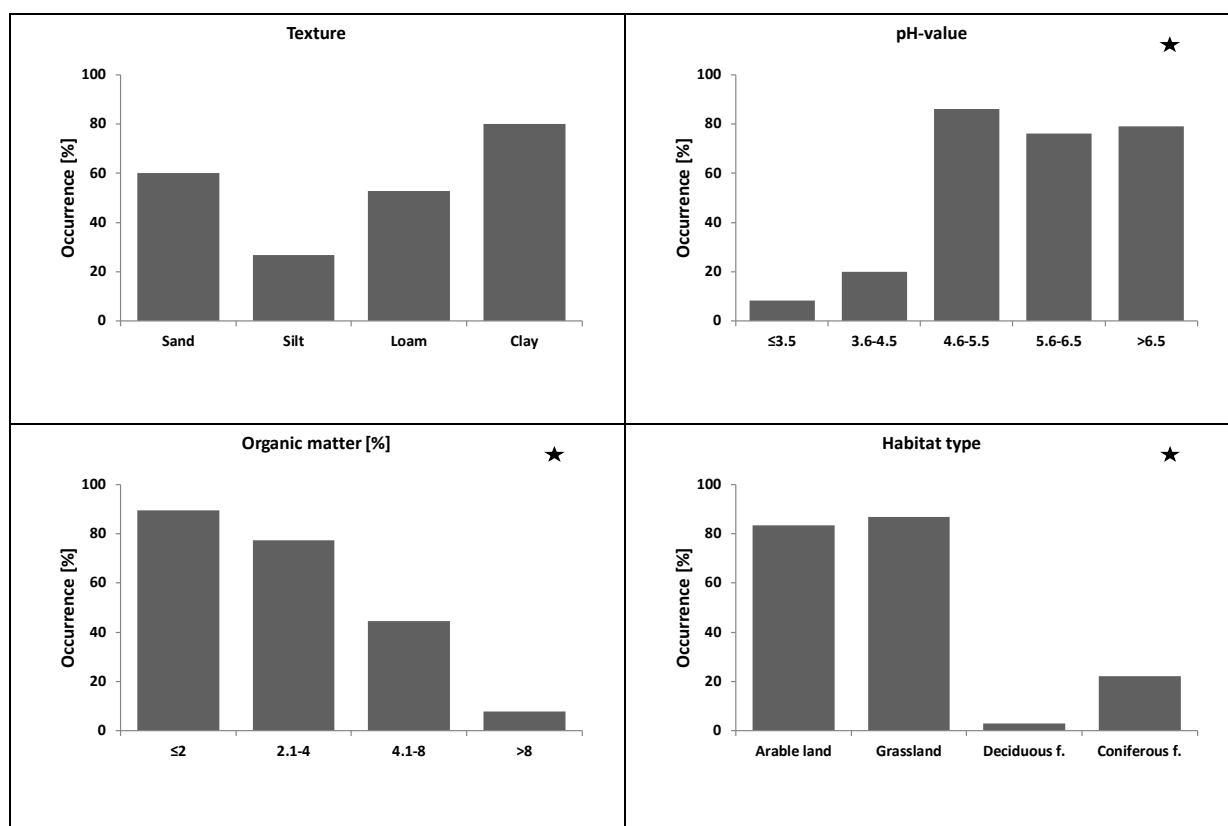


Fig. 39: Records of *F. bulboides* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Fridericia christeri* Rota & Healy, 1999

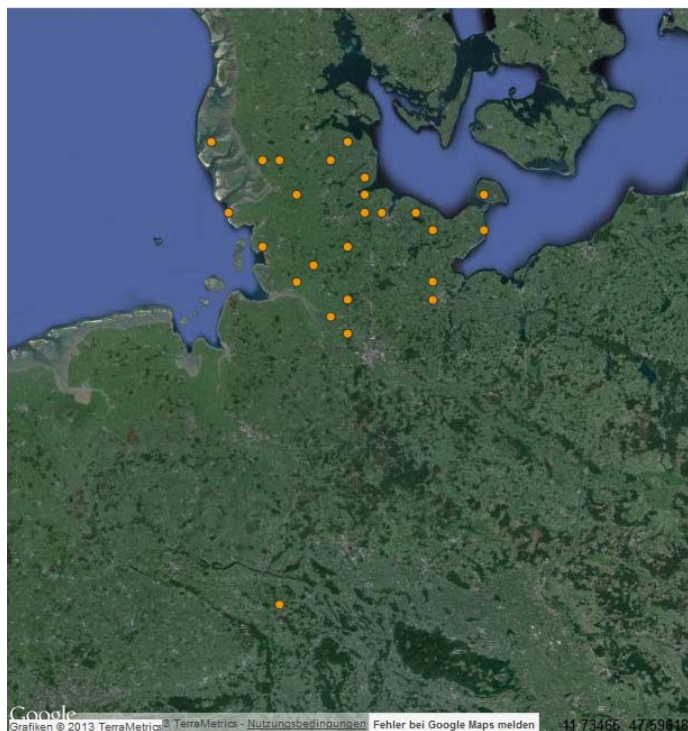
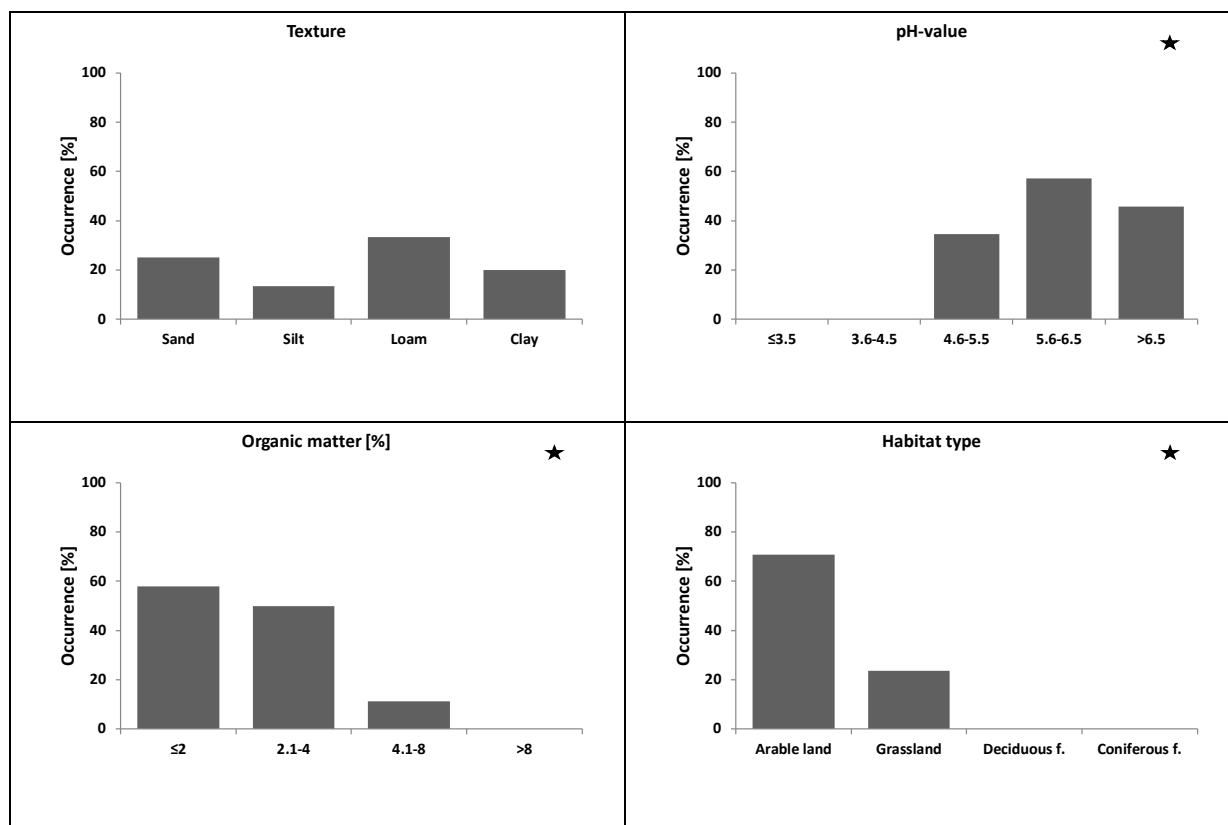


Fig. 41: Records of *F. christeri* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Fridericia deformis* Möller, 1971

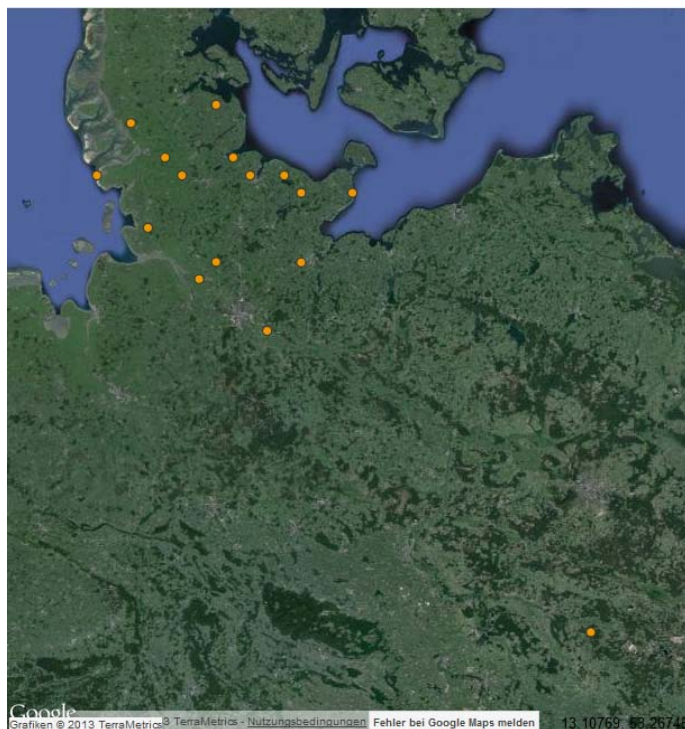
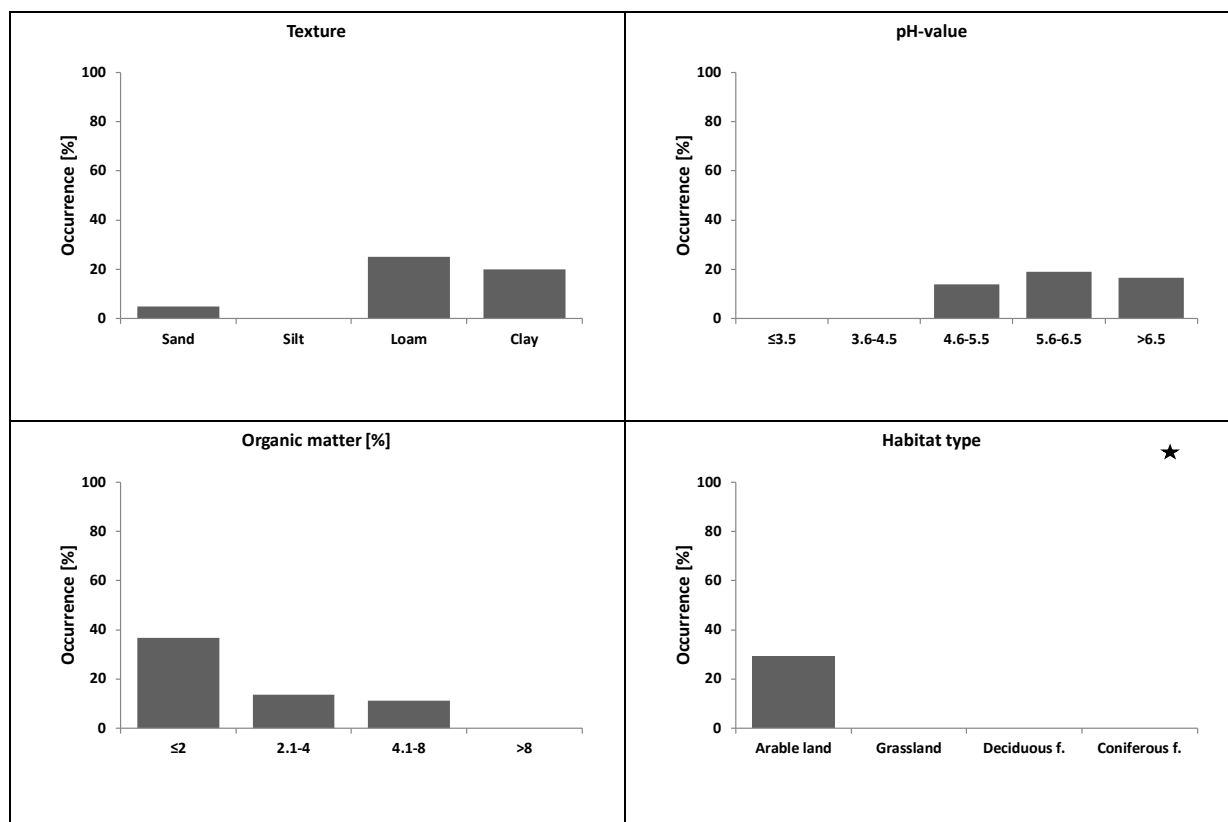


Fig. 43: Records of *F. deformis* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





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

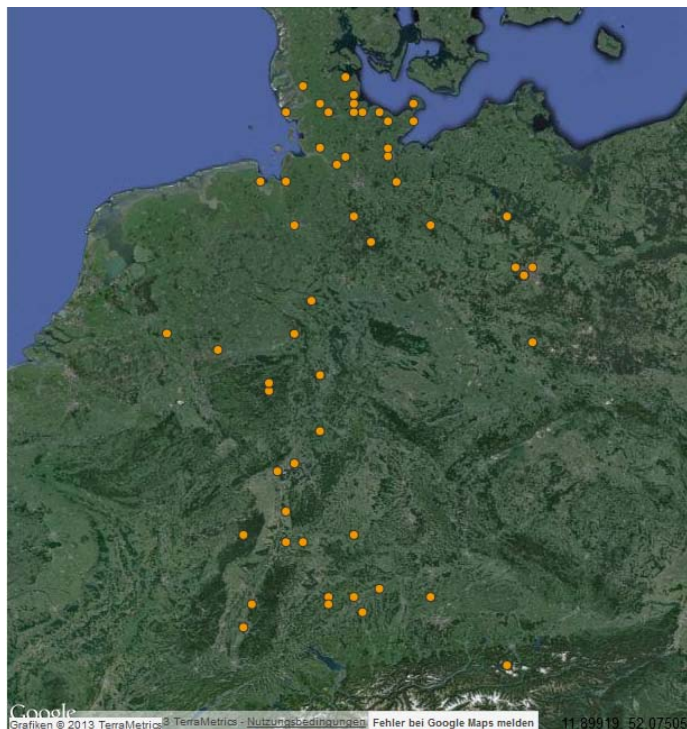
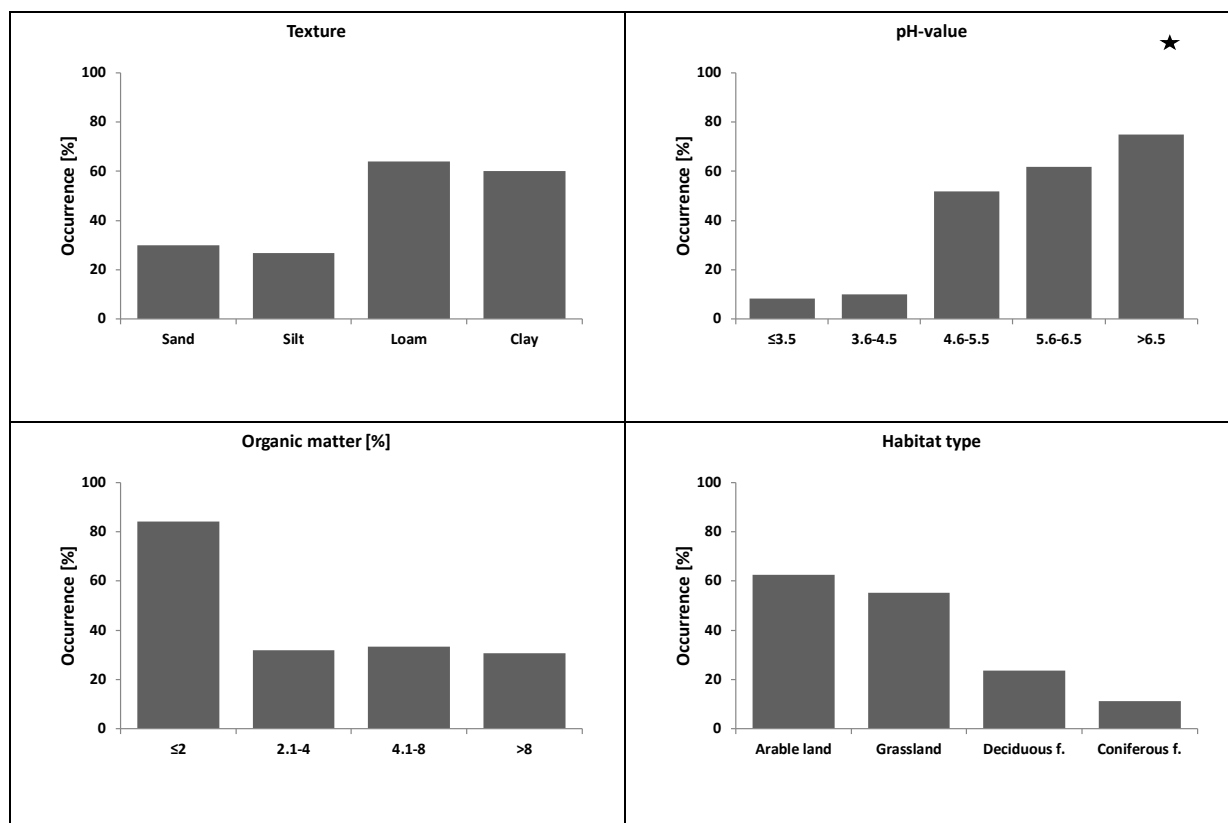


Fig. 45: Records of *F. galba* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



***Fridericia granosa*** Schmelz, 2003

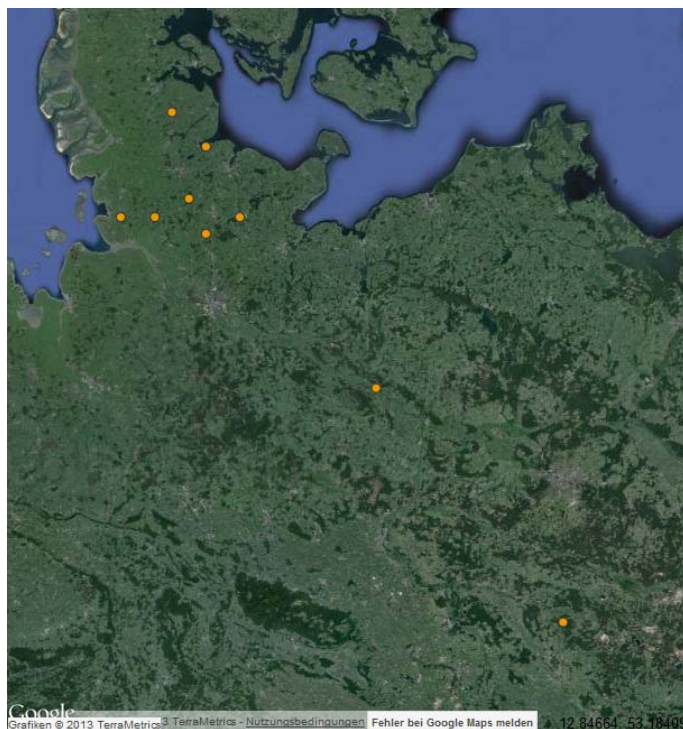
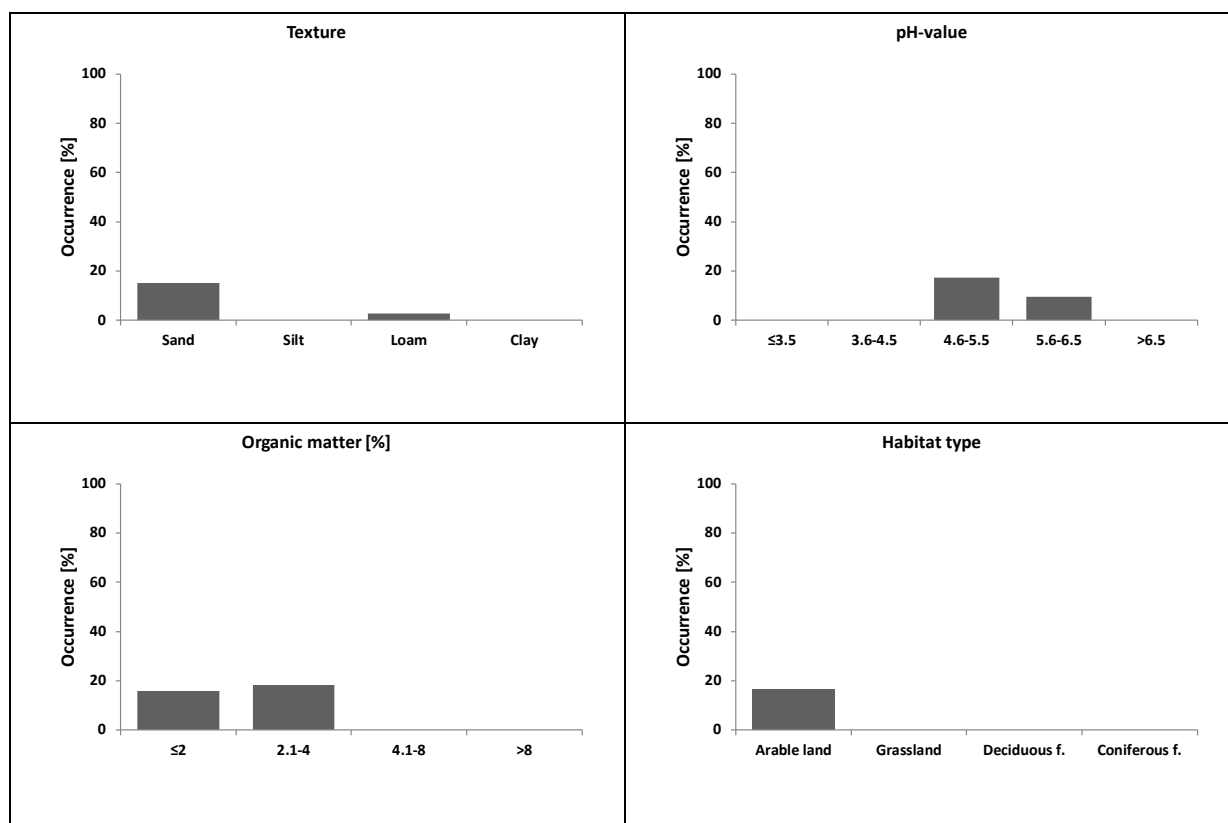


Fig. 47: Records of *F. granosa* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



***Fridericia isseli*** Rota, 1994

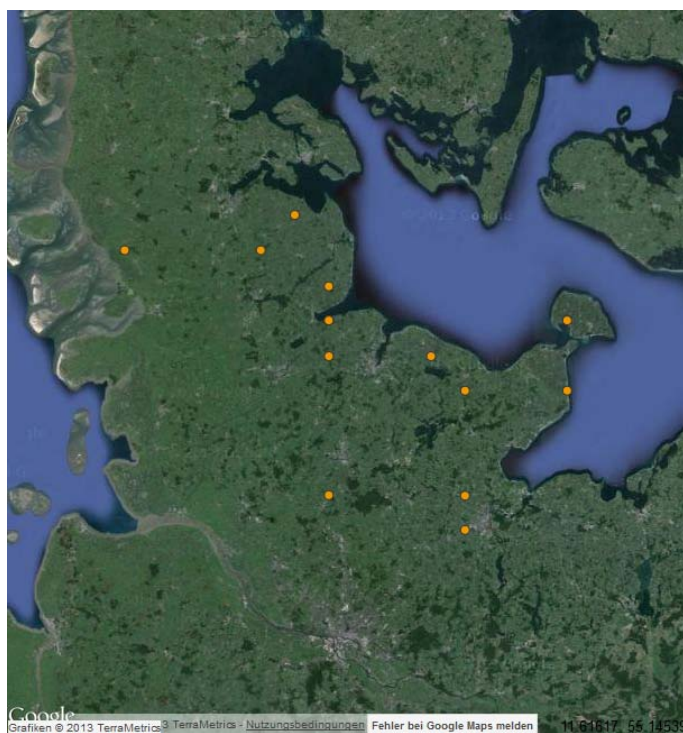
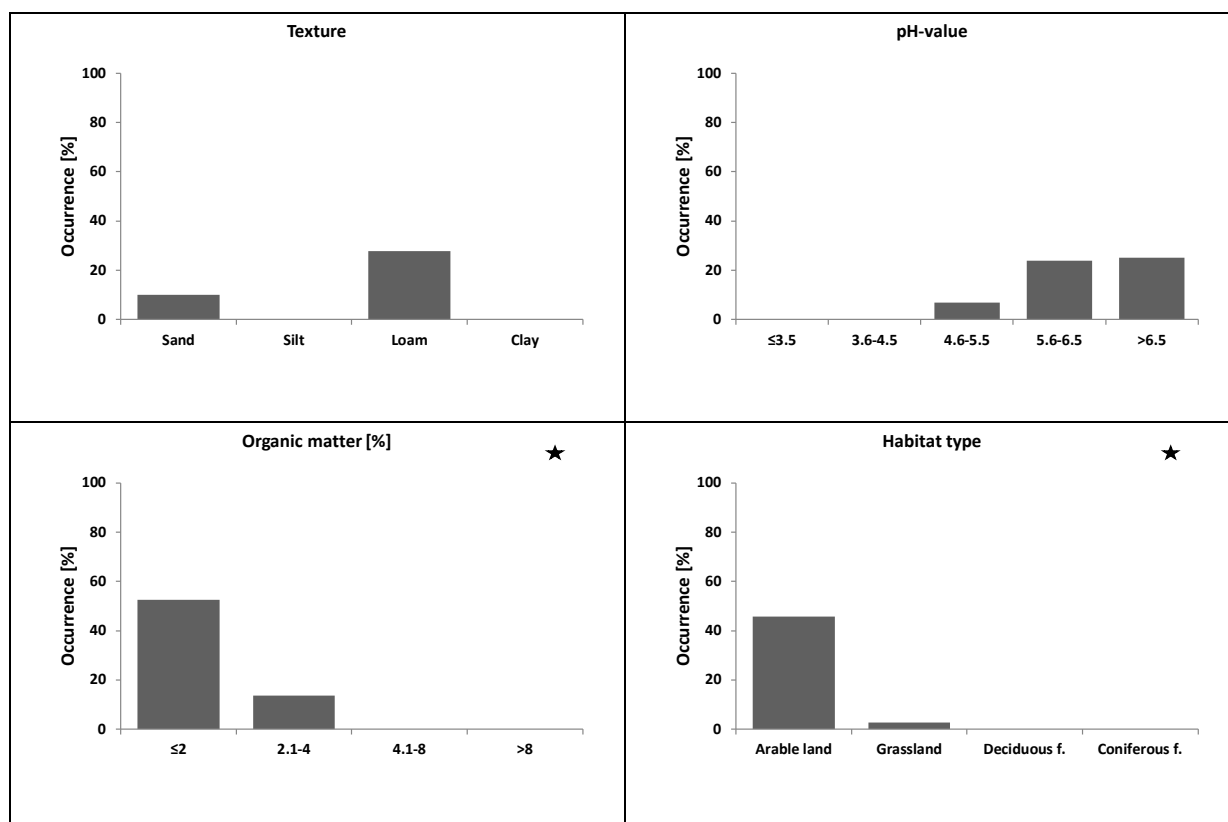


Fig. 49: Records of *F. isseli* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Fridericia paroniana* Issel, 1904

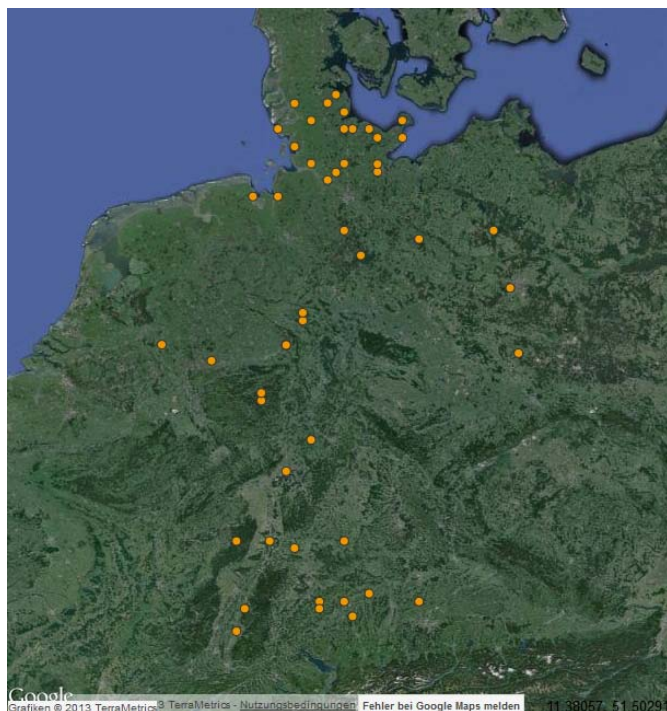
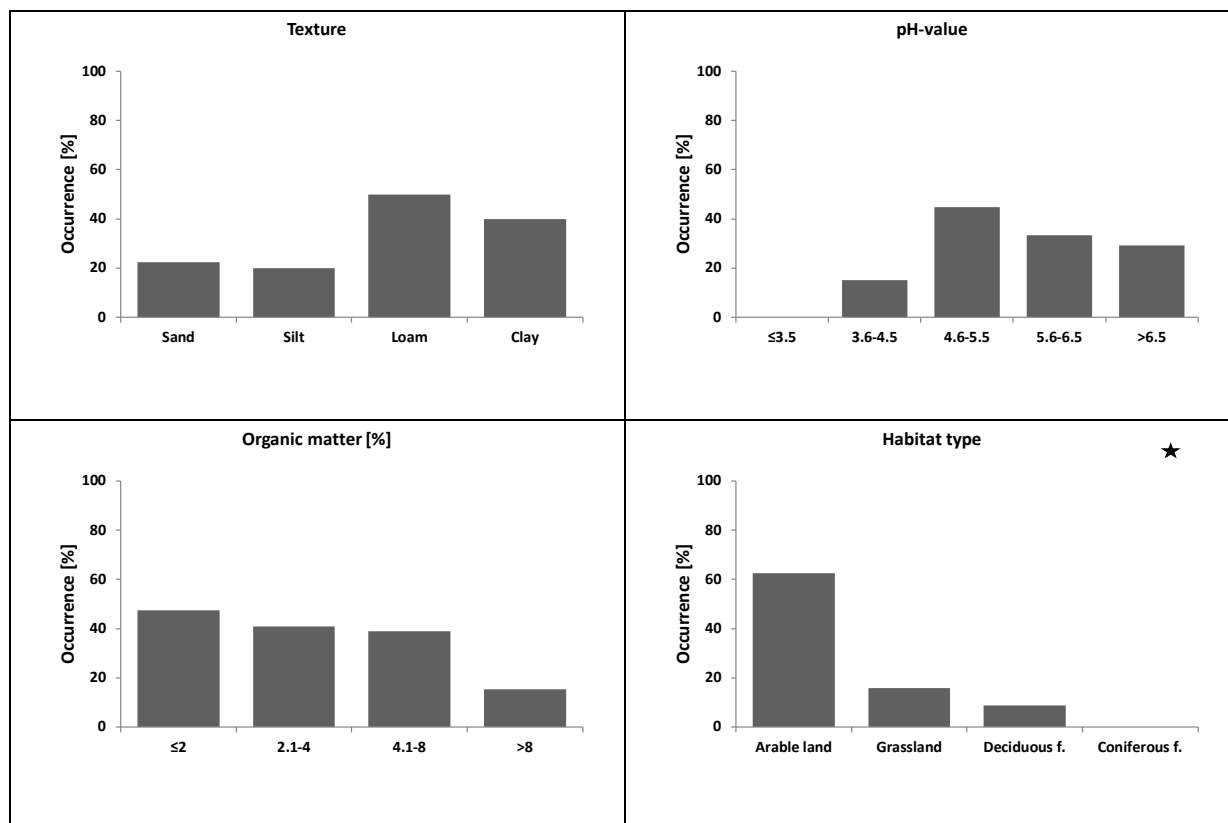


Fig. 51: Records of *F. paroniana* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





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

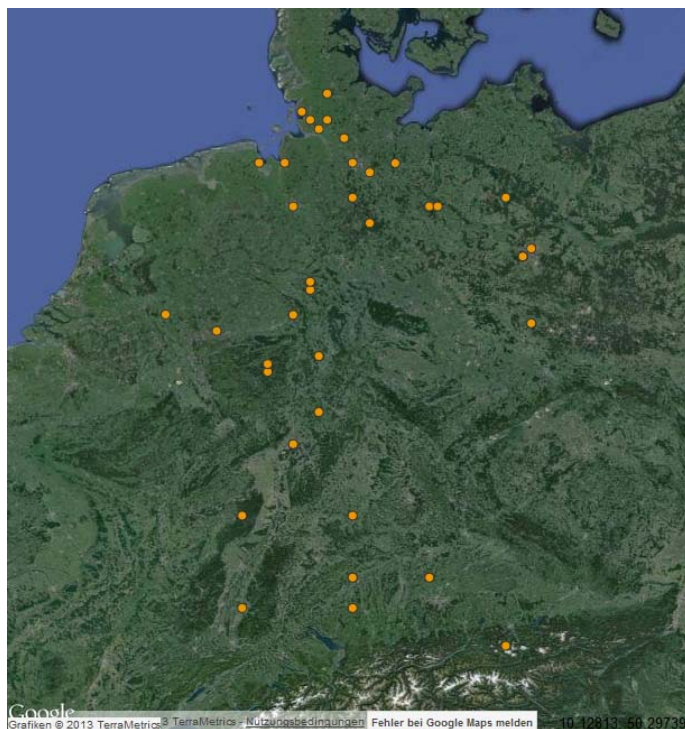
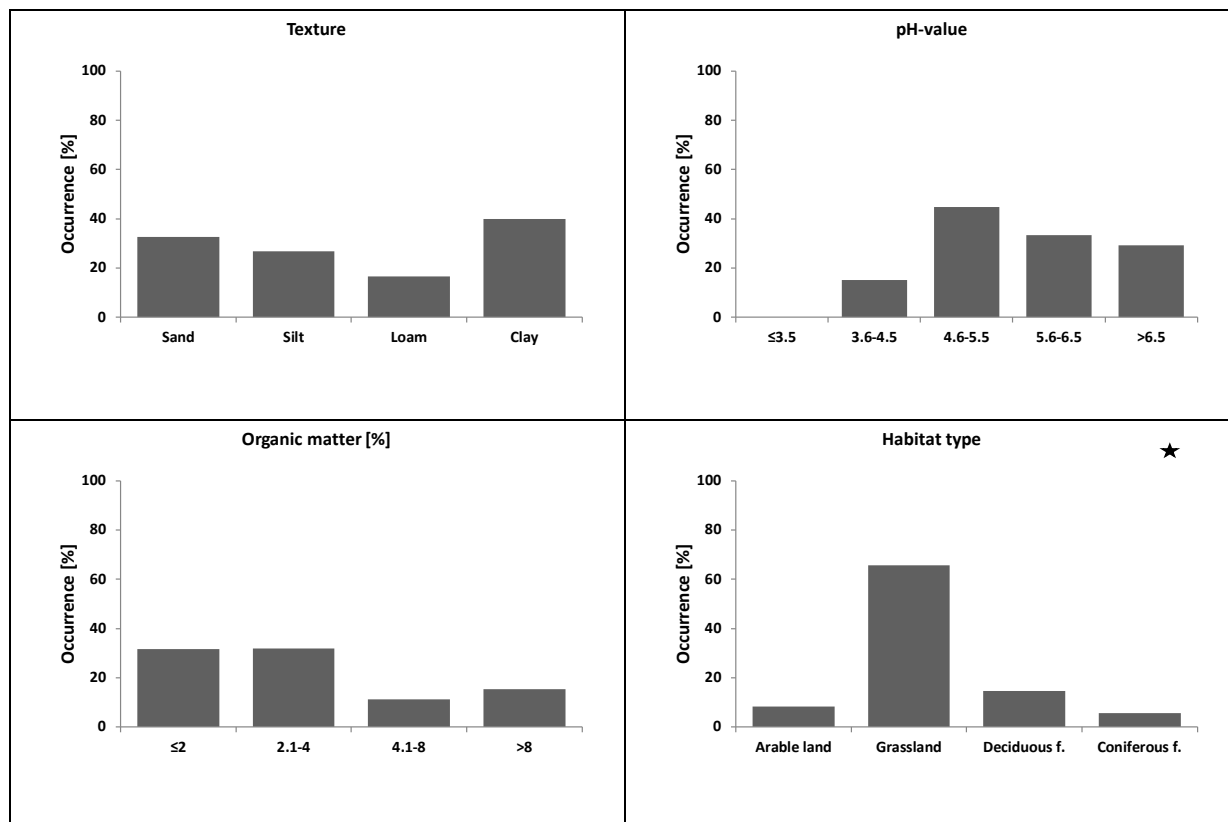


Fig. 53: Records of *F. ratzeli* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





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

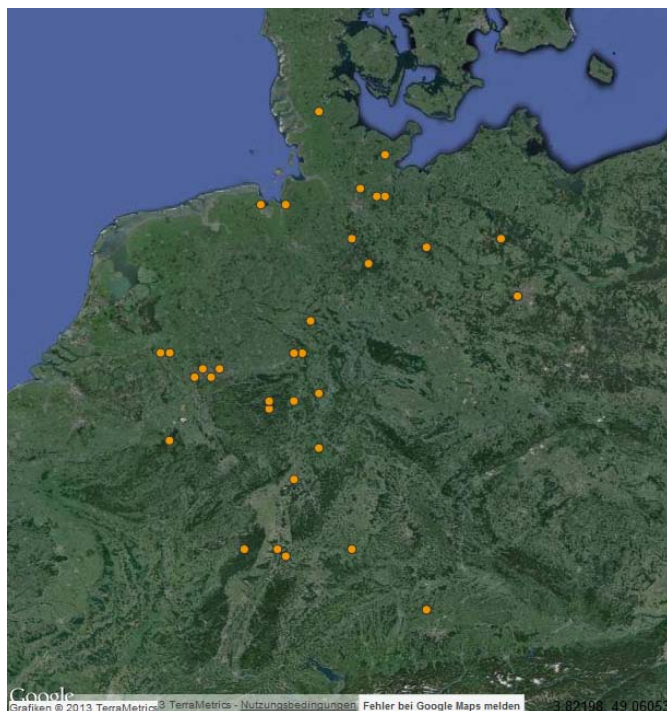
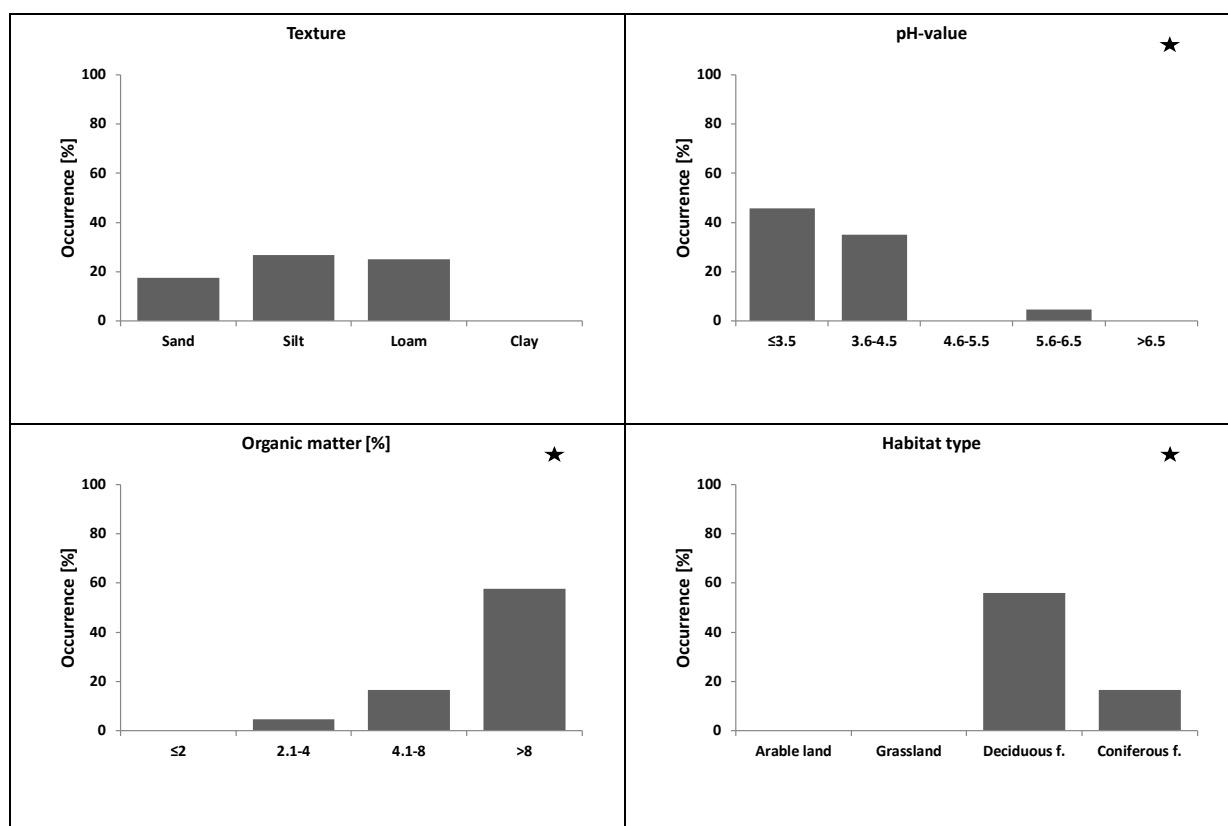


Fig. 55: Records of *F. striata* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).

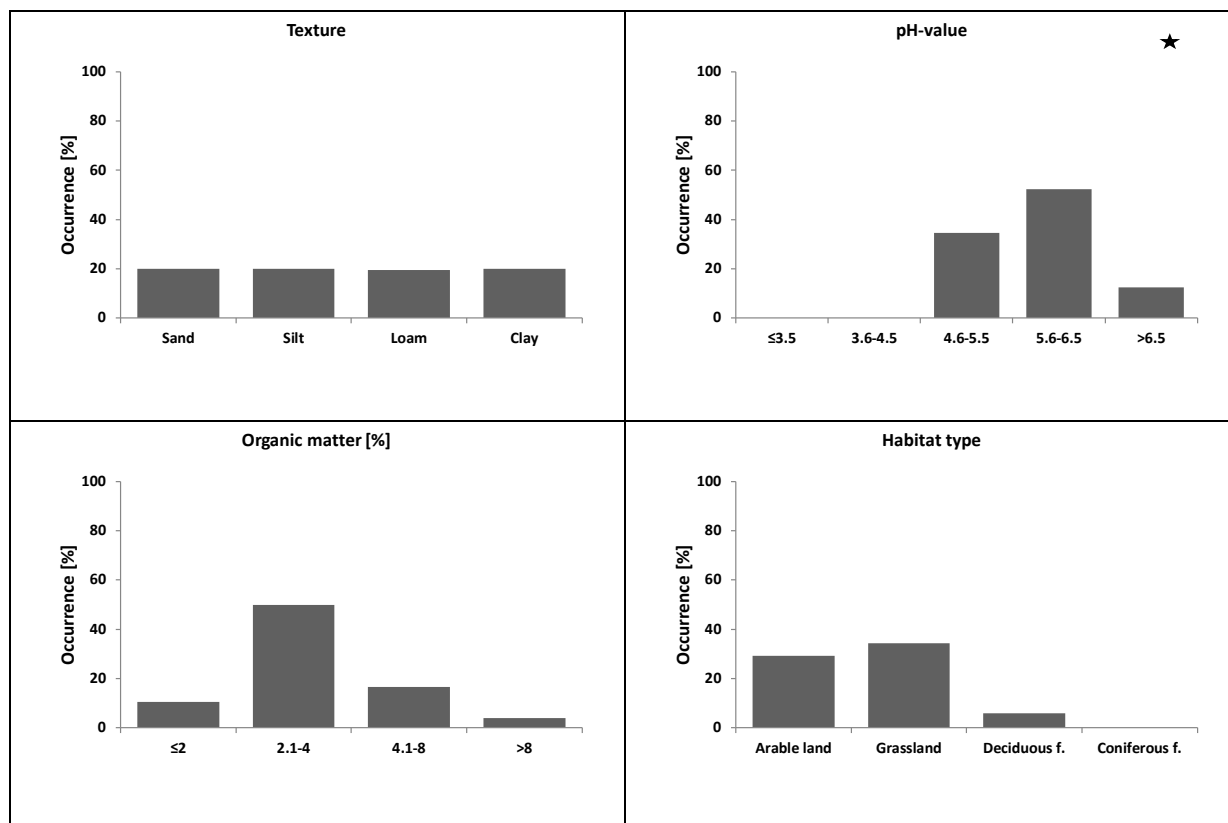


*Fridericia sylvatica* Healy, 1979



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<sup>2</sup>-Test).



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

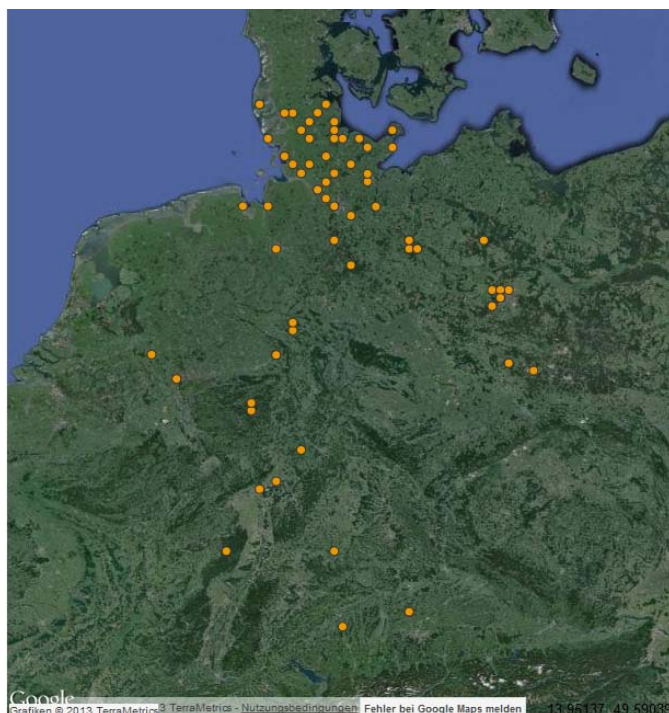
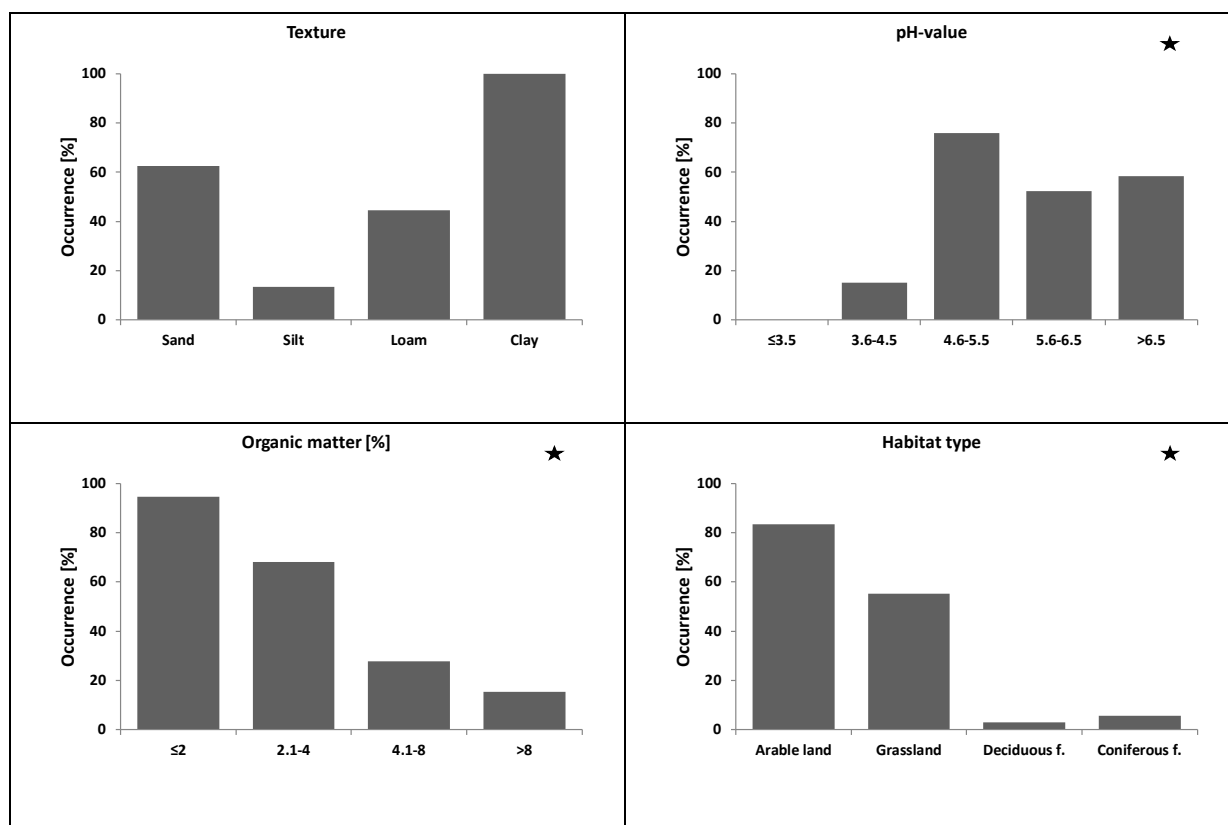


Fig. 59: Records of *H. perpusilla* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).

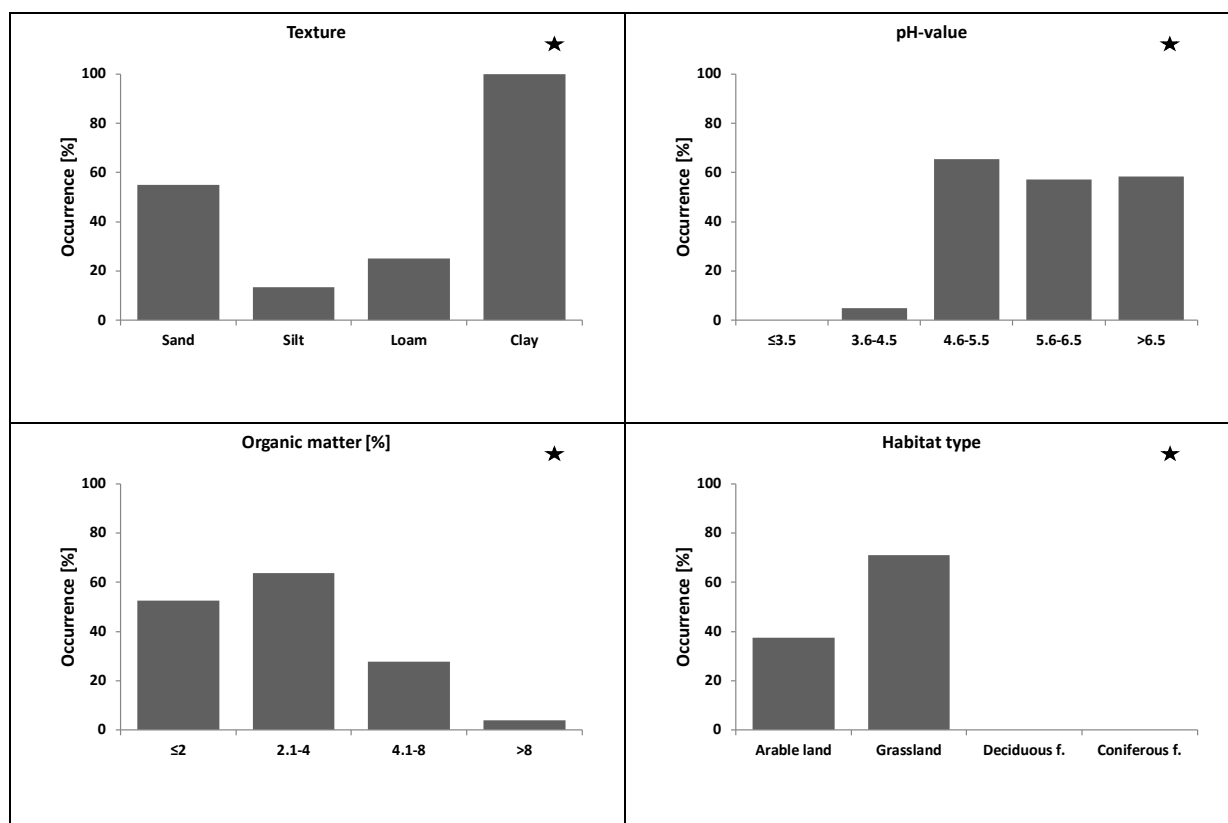


***Henlea ventriculosa* (d'Udekem, 1854)**



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<sup>2</sup>-Test).



***Marionina brendae*** Rota, 1995

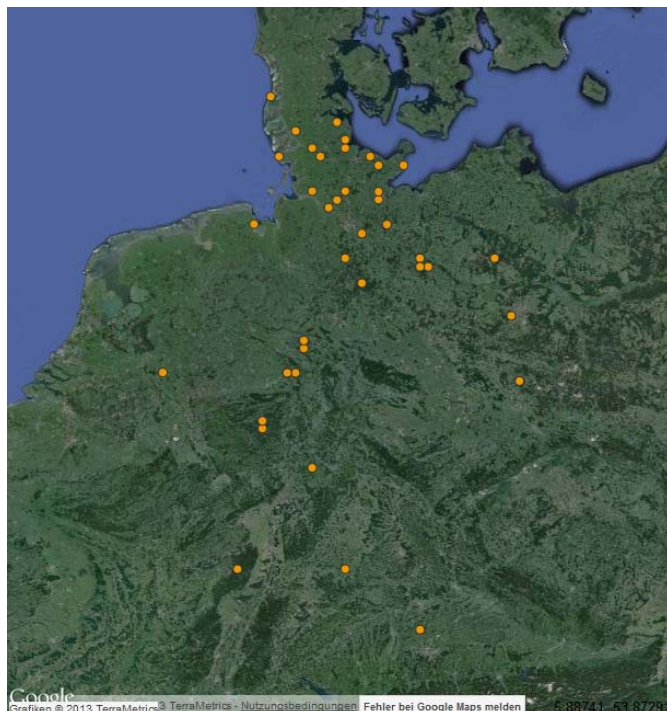
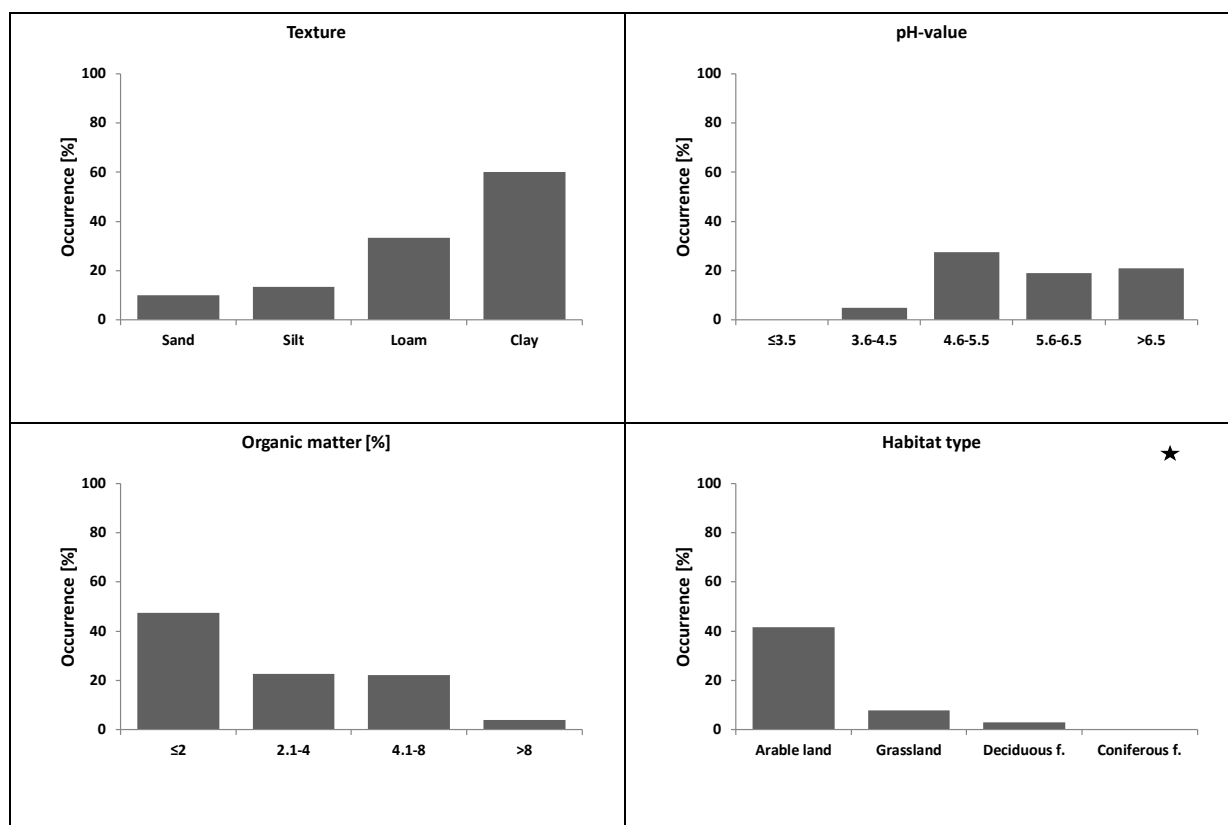


Fig. 63: Records of *M. brendae* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



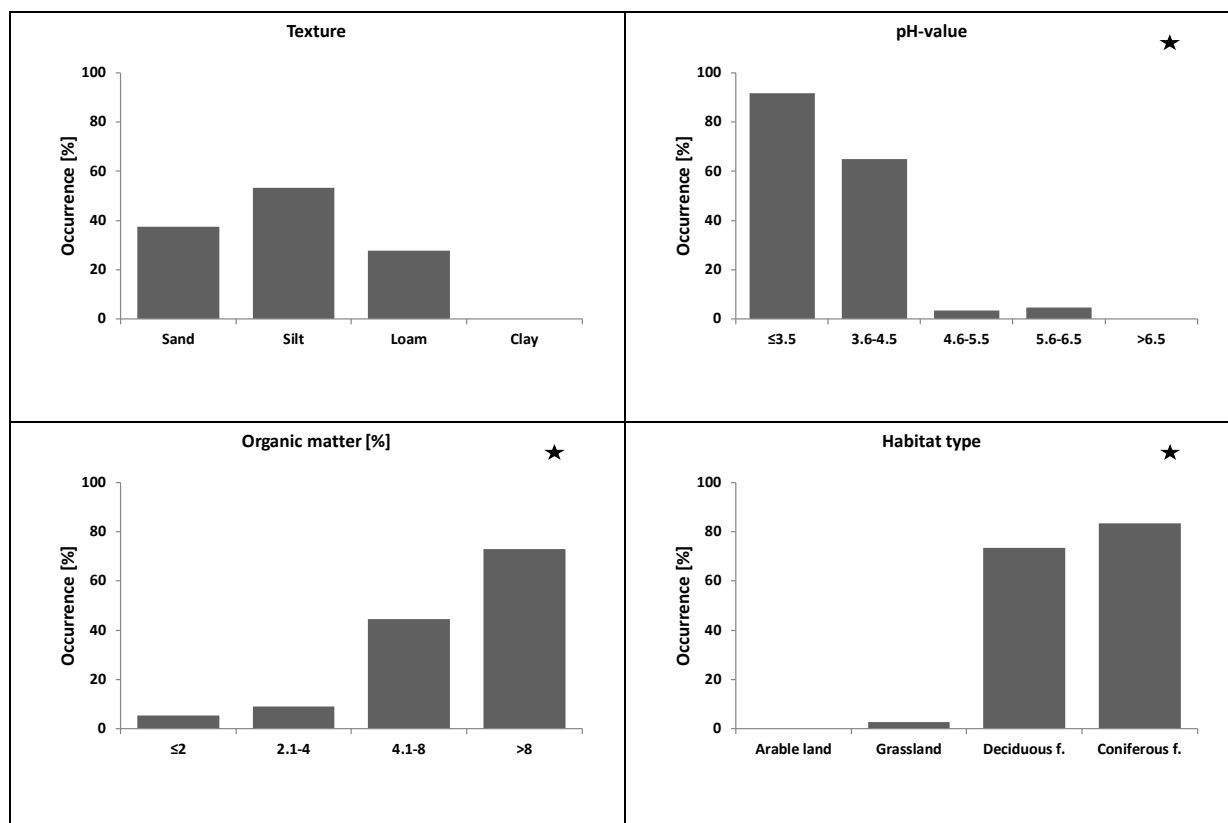


***Marionina clavata*** Nielsen & Christensen, 1961



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<sup>2</sup>-Test).

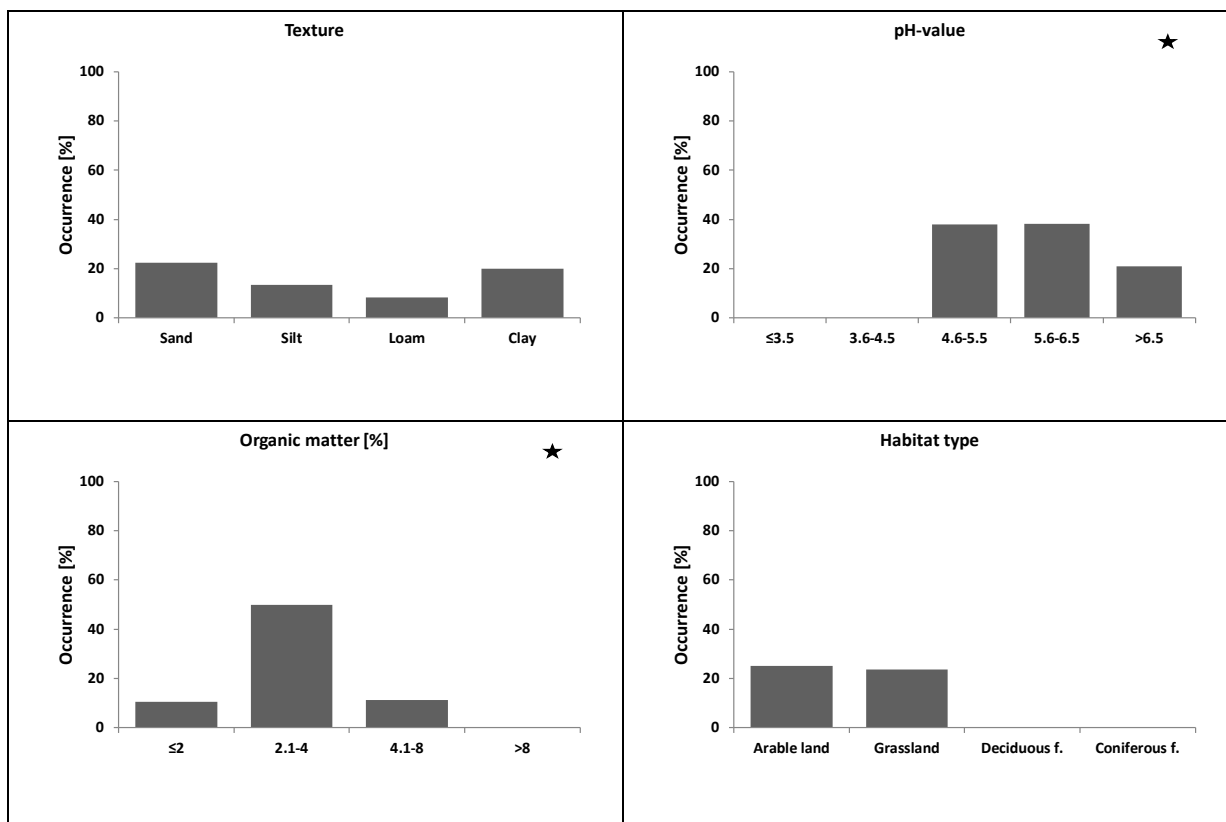


***Marionina communis*** Nielsen & Christensen, 1959



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<sup>2</sup>-Test).



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

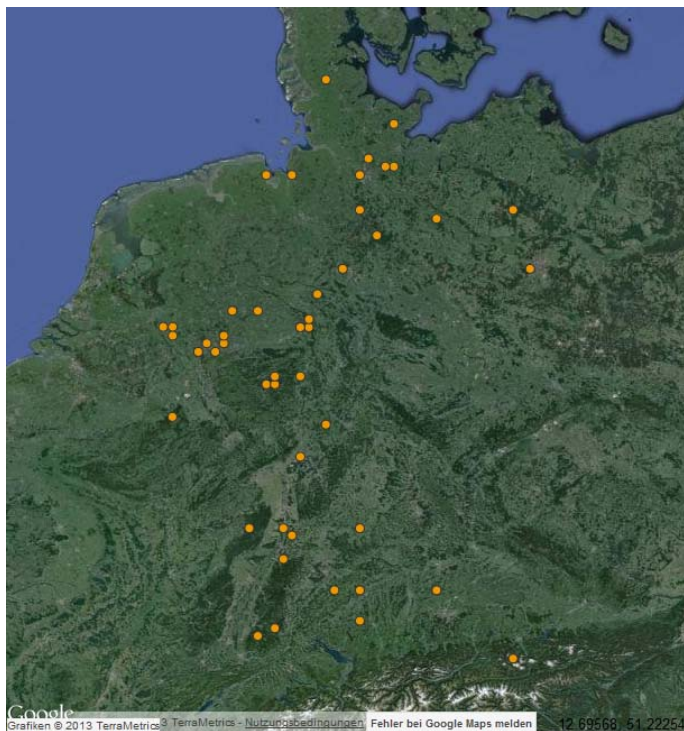
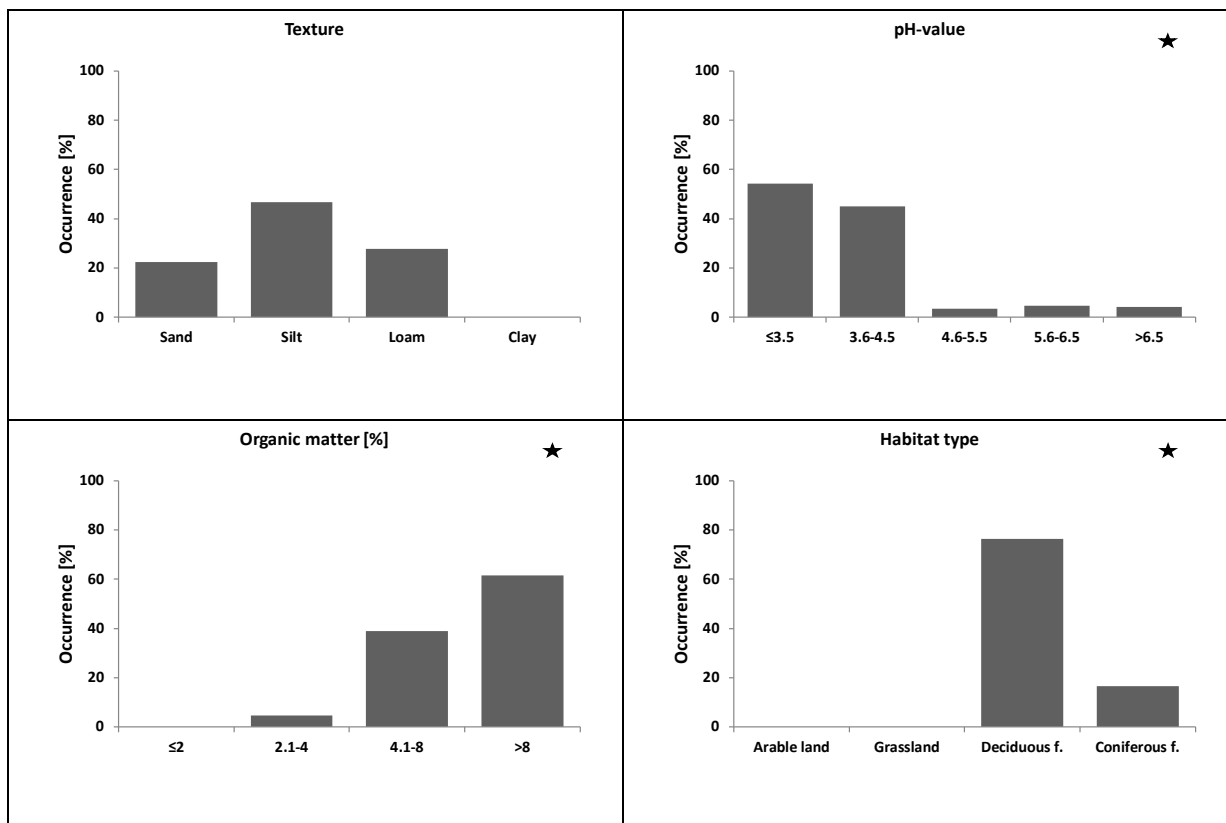


Fig. 69: Records of *M. glandulosus* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).



*Mesenchytraeus pelicensis* Issel, 1905

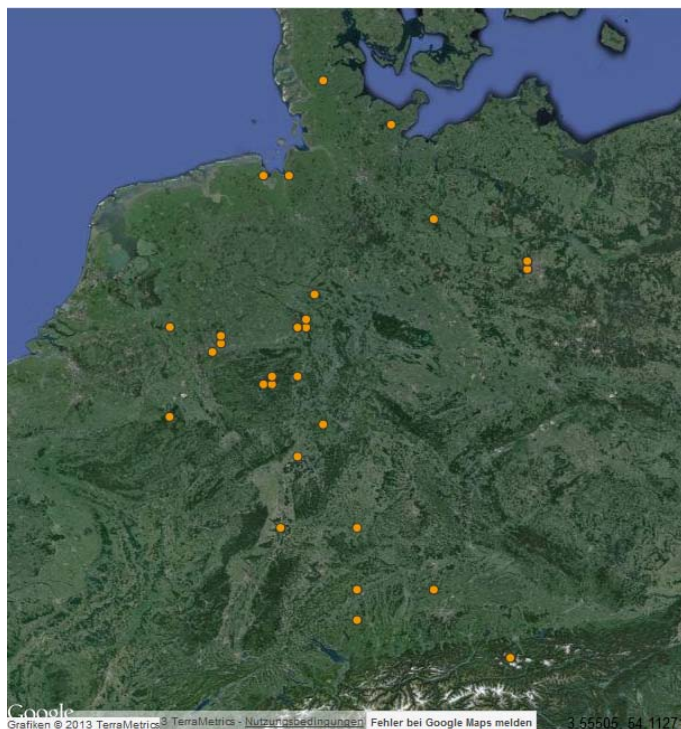
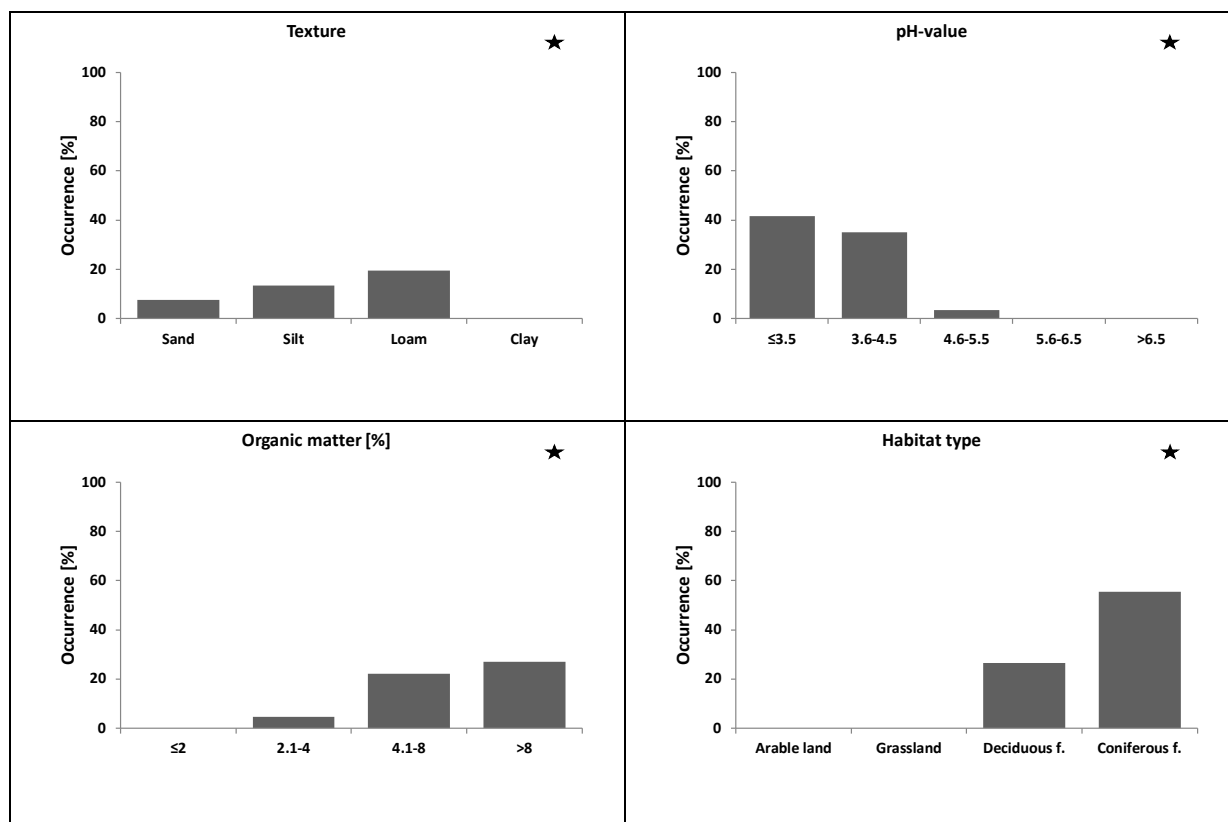


Fig. 71: Records of *M. pelicensis* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).





*Oconnorella cambrensis* (O'Connor, 1963)

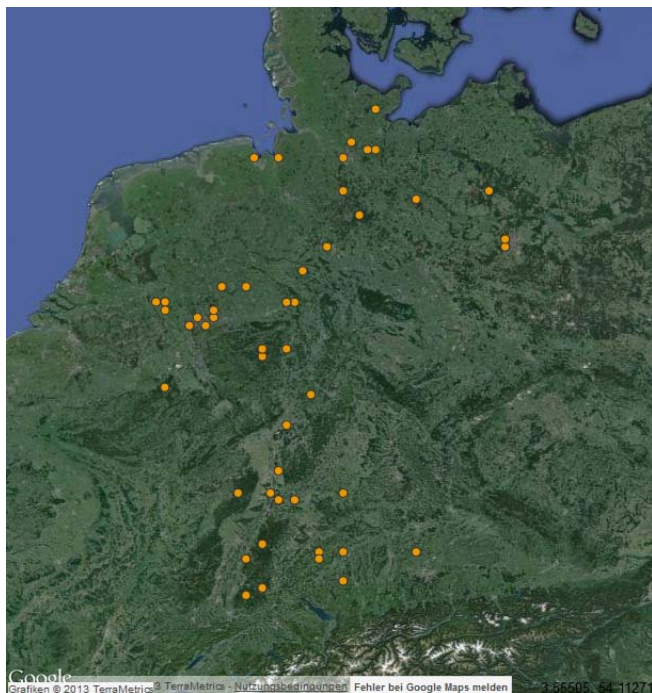


Fig. 73: Records of *O. cambrensis* from the sites in Germany analysed in this study.

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<sup>2</sup>-Test).

