

Topic 1 Biodiversity of urban-industrial areas and its evaluation

Hybridisation as an evolutionary factor in the phytodiversity of urban-industrial brownfields in the Ruhrgebiet

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The phytodiversity of urban-industrial brownfields is significantly high in correlation to the diversity of habitats. Additionally to the brownfield specific phytocoenoses with a number of endangered and phytogeographic remarkable species (apophytic occurrences) a lot of anecophytic hybrids and hybrid derivative taxa can be found. Studies in the urban-industrial brownfield areas Waldteichgelände (Oberhausen), Brache Vondern (Oberhausen), Zeche Hansa (Dortmund) and Holzplatz (Kamen/Bönen) pointed out that most spontaneous hybrids are present in Onagraceae (*Epilobium*, *Oenothera*) and Salicaceae (*Populus*, *Salix*). In *Oenothera* the heterogamic breeding system leads to paraphyletic species-similar complexes. In *Epilobium* some hybrids become stable derivatic taxa after short times and now begin to spread. Also some *Salix* hybrids are generative stable. Apomictic and autogamous taxa are also present and take part in hybridisation. Especially primary *Rubus* sect. *Corylifolii* hybrids and their derivatives can be found. It seems that autosegregation plays only a minor role in apomictic species on brownfields, so hybridisation is a major evolution process in the development of anecophytes on brownfields.