

Vascular flora of the Lüchow railway station (Lower Saxony, Germany)

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The investigated railway station

The small city Lüchow is situated in a rural area in the north of Germany near the river Elbe. The city of Lüchow was founded in 1294; the number of inhabitants is about 9.300. Lüchow was connected to the German railway system not before 1911, and only by local branches. Lüchow and the surrounding rural district became partly isolated after 1945, because of the division of Germany in two parts and the long common border line with the former German Democratic Republic (GDR). The railway line to Salzwedel (former GDR) was already interrupted in 1945, there remained only a less important connection to Dannenberg. The last passenger train to Dannenberg started already in 1976, the last good train is said to be dispatched in 1998.

The area of the railway station comprises some 6,5 ha. The flora was investigated in the years 1998 till 2002.

Results: The vascular flora

The following 183 species have been recorded since 1998.

Acer campestre, *Acer negundo*, *Acer platanoides*, *Acer pseudoplatanus*, *Achillea millefolium*, *Agrostis capillaris*, *Ailanthus altissima*, *Aira praecox*, *Alopecurus pratensis*, *Amaranthus retroflexus*, *Amelanchier lamarkii*, *Anthriscus sylvestris*, *Apera spica-venti*, *Arctium lappa*, *Arctium minus*, *Arenaria serpyllifolia*, *Arrhenatherum elatius*, *Artemisia vulgaris*, *Atriplex patula*;

Bassia scoparia ssp. *densiflora*, *Bellis perennis*, *Betula pendula*, *Brassica napus*, *Bromus hordeaceus* ssp. *hordeaceus*, *Bromus sterilis*, *Bromus tectorum*,

Calamagrostis epigejos, *Calluna vulgaris*, *Capsella bursa-pastoris*, *Cardaminopsis arenosa*, *Carex hirta*, *Carpinus betulus*, *Cerastium semidecandrum*, *Chaerophyllum temulum*, *Chamaecyparis lawsoniana*, *Chelidonium majus*, *Chenopodium album*, *Cichorium intybus*, *Cirsium arvense*, *Cirsium vulgare*, *Clematis vitalba*, *Convolvulus arvensis*, *Conyza canadensis*, *Cornus* cf. *alba*, *Cornus sanguinea* juv., *Corynephorus canescens*, *Crepis capillaris*,

Dactylis glomerata, *Daucus carota*, *Descurainia sophia*, *Digitalis purpurea*, *Digitaria ischaemum*, *Diploaxis tenuifolia*, *Dipsacus fullonum*,

Echinochloa crus-galli, *Elymus repens*, *Epilobium adnatum*, *Epilobium angustifolium*, *Epilobium ciliatum*, *Epilobium hirsutum*, *Epilobium montanum*, *Eragrostis minor*, *Erigeron annuus*, *Erophila verna*, *Erysimum cheiranthoides*, *Eupatorium cannabinum*,

Fallopia convolvulus, *Fallopia dumetorum*, *Festuca ovina* agg., *Festuca rubra*, *Filago arvensis*, *Fragaria x ananassa*, *Fraxinus excelsior*,

Galium aparine, *Geranium molle*, *Geranium pusillum*, *Geranium robertianum*, *Glechoma hederacea*,

Hedera helix, *Holcus lanatus*, *Holosteum umbellatum*, *Hordeum murinum*, *Hypericum perforatum*, *Hypochaeris radicata*,

Lactuca serriola, *Lamium album*, *Lapsana communis*, *Lathyrus pratensis*, *Lathyrus sylvestris*, *Leontodon autumnalis*, *Lepidium ruderales*, *Linaria vulgaris*, *Lolium multiflorum*, *Lolium perenne*, *Lonicera periclymenum*, *Lotus corniculatus*, *Lupinus polyphyllus*,

Malva neglecta, *Matricaria discoidea*, *Medicago lupulina*, *Melilotus albus*, *Melilotus officinalis*, *Myosotis ramosissima*, *Myosotis sylvatica*,

Oenothera biennis agg.,

Papaver dubium, *Parthenocissus quinquefolia*, *Picea abies*, *Picris hieracioides*, *Pinus sylvestris*, *Plantago lanceolata*, *Plantago major*, *Plantago media*, *Poa angustifolia*, *Poa annua*, *Poa compressa*, *Poa palustris*, *Poa pratensis*, *Polygonum aviculare* agg., *Populus x hybrida* juv., *Potentilla argentea*, *Prunus mahaleb*, *Prunus serotina*, *Psyllium arenarium*,

Quercus robur,

Ribes uva-crispa, *Robinia pseudacacia*, *Rosa cf. canina*, *Rosa rugosa*, *Rosa spec.*, *Rubus armeniacus*, *Rubus caesius*, *Rubus idaeus*, *Rumex acetosella*, *Rumex crispus*, *Rumex thyrsiflorus*,

Sagina procumbens, *Salix alba* juv., *Sambucus nigra*, *Saxifraga tridactylites*, *Secale cereale*, *Sedum acre*, *Senecio jacobaea*, *Senecio vernalis*, *Senecio viscosus*, *Senecio vulgaris*, *Setaria viridis*, *Silene vulgaris*, *Sisymbrium altissimum*, *Solidago canadensis*, *Sonchus asper*, *Sonchus oleraceus*, *Sorbus aucuparia*, *Syringa vulgaris*,

Tanacetum vulgare, *Taraxacum officinale* agg., *Taxus baccata*, *Tilia cf. cordata* juv., *Tilia spec. juv.*, *Torilis japonica*, *Tragopogon pratensis*, *Trifolium arvense*, *Trifolium campestre*, *Trifolium pratense*, *Trifolium repens*, *Tripleurospermum perforatum*, *Triticum aestivum*,

Ulmus minor, *Urtica dioica*,

Valeriana officinalis, *Verbascum densiflorum*, *Verbascum thapsus*, *Veronica arvensis*, *Veronica hederifolia*, *Vicia angustifolia*, *Vicia cracca*, *Vicia hirsuta*, *Vicia sepium*, *Vicia tetrasperma*, *Viola arvensis*, *Viola odorata*, *Viola x wittrockiana*, *Vulpia myuros*.

3. Discussion

183 taxa (181 species) are found spontaneously growing on the sidings of the railway station. This meets more than 50 percent of the total ruderal flora of Lüchow growing on less than 1 % of the area.

Tab. 1: Life forms.

Life form	Number	Percent
Phanerophytes	35	19,1
Dwarf shrubs	1	0,5
Rubus ("pseudo-shrubs")	3	1,6
Chamaephytes	3	1,6
Hemikryptophytes	76	41,5
Geophytes	6	3,3
Therophytes	59	32,2
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Total	183	99,8

Amongst the 35 woody plant species there are 19 tree species (= 10,4 % of the total flora of the railway sidings). Amongst the indigenous flora of Central Europe only 1,8 % are trees (Ellenberg 1996).

Tab. 2: Status of the flora.

Category	Number	Percent
Indigenous	119	65.0
Archaeophytes	30	16.4
Neophytes	34	18.6
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Total	183	100

More than a third of the species are aliens: 30 species are classified as archaeophytes (pre 1500 aliens), and 34 are neophytes (post 1500 aliens). Ornamental plants and trees growing in the neighbourhood are the main source of neophytes (vicinity effect!): 18 species (52,9 %). 11 species (32,4 %) are most probably distributed unintentionally as pollution of goods, some of them may be also akolutophytes. 5 species are field crops running wild (at least) for a short time.

Which species are distributed by the railway? These are at least: *Amaranthus retroflexus*, *Diploaxis tenuifolia*, *Bassia scoparia subsp. densiflora*, *Eragrostis minor*, *Psyllium arenarium*, *Saxifraga tridactylites*, *Vulpia myuros*.

Literature

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