



Technische
Universität
Braunschweig

Institut für
Pflanzenbiologie



Carrichtero-Amberboion in Fuerteventura

Prof. Dr. Dietmar Brandes

2011-3-1

Carrichtero annuae-Amberboion lippii

The class Stellarietea mediae Tx., Lohm. & Prsg. 1950 [Ruderali-Secalietae cerealis Br.-Bl. 1936] comprises annual nitrophilous plant communities in the northern hemisphere of the earth. Within this class the order Brometalia rubenti-tectori Rivas-Martínez Izco 1977 comprises the subnitrophilous ruderal vegetation with the two alliances Carrichtero annuae-Amberboion lippii Rivas Goday & Rivas-Martínez ex Esteve 1973 and Echio-Galactition tomentosae O. Bolós & Molinier 1969.

The ecology of Carrichtero annuae-Amberboion lippii is characterized by intra-thermomediterranean respective desert climates in the lower regions of the Canary islands and in the driest parts of southern Spain, perhaps also in Morocco and Western Sahara. The development of the ephemeric vegetation depends on the amount of rainfall in late autumn and winter. The biomass is little compared with communities of the alliance Sisymbrium. The emergence of species of the Carrichtero annuae-Amberboion lippii leads to the phenomenon of „flowering deserts“.

Characteristic species

Characteristic species of the alliance Carrichtero-Amberboion and its associations on Fuerteventura are (Rivas-Martínez et al.1993; Rodríguez Delgado, García Gallo & Reyes-Betancort 2000; Reyes-Betancort, Wildpret de la Torre & León Arencibia 2001, Brandes n.p.):

Calendula aegyptiaca, *Carrichtera annua*, *Cuscuta planiflora*, *Echium bonnetii*, *Erodium neuradifolium*, *Filago desertorum*, *Ifloga spicata*, *Launaea nudicaulis*, *Lotus glinoides*, *Mairetis microsperma*, *Medicago laciniata*, *Matthiola longipetala*, *Matthiola parviflora*, *Notoceras bicornis*, *Oligomeris linifolia*, *Ononis serrata*, *Plantago amplexicaulis*, *Plantago aschersonii*, *Plantago ovata*, *Reichardia tingitana*, *Reseda lancerotae*, *Rostraria pumila*, *Schismus barbatus*, *Senecio glaucus* subsp. *coronopifolius*, *Trigonella stellata*, *Volutaria canariensis?*, *Volutaria lippi?*, *Volutaria tubuliflora?*

Associations described

The following associations of the Carrichtero annuae-Amberboion lippii are described from Fuerteventura:

Launaeo nudicaulis-Resetum lancerotae Rodríguez Delgado, García Gallo & Reyes Betancort 2000

Iflogo spicatae-Stipetum capensis (Esteve & Socorro 1977) Rivas-Martínez et al. 1993

From Lanzerote the associations are described:

Bupleuro semicompositi-Mairetetum microspermae Reyes-Betancort, Wildpret de la Torre & León Arencibia 2001

Iflogo spicatae-Stipetum capensis (Esteve & Scorro 1977) Rivaz-Martínez et al. 1993

Volutaria tubuliflora-community Reyes-Betancort, Wildpret de la Torre & León Arencibia 2001

From Tenerife are described:

Senecio coronopifolii-Echietum bonnetii Rivaz-Martínez et al. 1993

Iflogo spicatae-Stipetum capensis (Esteve & Scorro 1977) Rivaz-Martínez et al. 1993



Carrichtera annua (Brassicaceae)

A photograph showing a dense field of two plant species. The Carrichtera annua plants are characterized by their numerous small, white, four-petaled flowers and thin, upright stems. Interspersed among them are Echium bonnetii plants, which have taller, more robust stems and large, vibrant purple flowers with a distinct hooded shape. The ground is covered with green foliage and some small, light-colored rocks.

Carrichtera annua (Brassicaceae) und *Echium bonnetii* (Boraginaceae)

Cuscuta planiflora (Cuscutaceae)



Echium bonnetii (Boraginaceae)





Ifloga spicata (Asteraceae)



Launaea nudicaulis (Asteraceae)



Launaea nudicaulis (Asteraceae)

Lotus glinoides (Fabaceae)





Reseda lancerotae, Mairetis microsperma und Ifloga spicata



Mairitis microsperma (Boraginaceae)



Mairitis microsperma (Boraginaceae)

A cluster of purple Matthiola bolleana flowers with yellow centers growing on a sandy beach. The flowers are surrounded by green, lobed leaves. In the background, there are dark, jagged volcanic rocks. The ground is composed of fine, light-colored sand with some small pebbles and debris.

Matthiola bolleana (Brassicaceae)

Calendula aegyptiacea (Asteraceae) und *Matthiola bolleana* (Brassicaceae)



A close-up photograph of several purple flowers with white centers, identified as Matthiola longipetala. The flowers are arranged in a cluster on a green stem. The background is a dark, textured surface, possibly a rock or pavement. The lighting is natural, highlighting the vibrant purple and white colors of the petals.

Matthiola longipetala (Brassicaceae)



Matthiola parviflora (Brassicaceae)



Moricandia arvensis (Brassicaceae)



Moricandia arvensis (Brassicaceae)



Notoceras bicornis (Brassicaceae)



Notoceras bicornis (Brassicaceae)



Oligomeris linifolia (Resedaceae)

A photograph of a green, succulent-like plant with multiple upright stems. Each stem is densely covered with small, light-colored flowers or buds. The plant is growing in a sandy, cracked soil environment, characteristic of an arid or semi-arid region. The cracks in the soil are deep and irregular, forming a network of polygonal shapes. The overall scene is brightly lit, suggesting a sunny day.

Oligomeris linifolia (Resedaceae)



Plantago amplexicaule (Plantaginaceae)



Plantago aschersonii (Plantaginaceae)

Plantago aschersonii (Plantaginaceae)





Plantago ovata (Plantaginaceae)



Reseda tingitana (Asteraceae)



Reichardia tingitana (Asteraceae)



Reseda lancerotae (Resedaceae)



Senecio flavus (Asteraceae)



Trigonella stellata (Fabaceae)



Volutaria cf. *lippii* (Asteraceae)

Literature

Rivas-Martínez, S. et al. (1993): Las comunidades vegetales de la Isla de Tenerife (Islas Canarias). – *Itinera Geobotanica*, 7:169-374.

Rodríguez Delgado, O., A. García Gallo & J. A. Reyes Betancort (2000): Estudio fitosociológico de la vegetación de Fuerteventura (islas Canarias). – *Vieraea*, 28: 61-98.

Reyes-Betancort, J. A., W. Wildpret de la Torre & M. C. León Arencibia (2001): The vegetation of Lanzarote (Canary Islands). – *Phytocoenologia*, 31 (2): 185-237.

Address of the author:

Prof. Dr. Dietmar Brandes

Arbeitsgruppe für Vegetationsökologie

Institut für Pflanzenbiologie der Technischen Universität Braunschweig

38023 Braunschweig (Germany)

d.brandes@tu-bs.de