



Conference Abstract

# What are the "characteristic species" of the habitats directive? A new statistics-driven approach connecting species, habitats and key habitat characteristics

Stefan Müller-Kroehling <sup>‡</sup>

<sup>‡</sup> Bavarian LWF, Freising, Germany

Corresponding author: Stefan Müller-Kroehling ([stefan.mueller-kroehling@lwf.bayern.de](mailto:stefan.mueller-kroehling@lwf.bayern.de))

Received: 17 Jun 2019 | Published: 18 Jun 2019

Citation: Müller-Kroehling S (2019) What are the "characteristic species" of the habitats directive? A new statistics-driven approach connecting species, habitats and key habitat characteristics. ARPHA Conference Abstracts 2: e37430. <https://doi.org/10.3897/aca.2.e37430>

## Abstract

A new understanding of "characteristic species" according to the Habitats Directive is presented, including a suggested definition from a scientific point of view and practical implementation.

The Habitats Directive includes the mandatory evaluation criterion "characteristic species". Although obligatory, it has largely been neglected and applied inconsistently. Reasons are the undefined character of the term and very different attempts for its interpretation. In several cases, particularly from the field of carabidology, maximum fidelity of the species has been suggested as the best criterion for defining characteristic species. In other words, the species must not occur in any other habitat type, but should be restricted entirely to the habitat it is characteristic for. As a result, for many habitats there are no, or at best very few characteristic species if this definition is strictly applied, and in many cases no characteristic species could be found even in very well-developed and large-enough sites where the habitat occurs.

Here, a completely different definition is presented. Exclusive fidelity is decidedly not required, since this criterion aims at defining character species, which by definition serve a different purpose, which is defining a habitat, not characterizing its conservation status. The set of characteristic species of a habitat should be defined based on their statistically confirmed affinity to the habitat and an affinity or fidelity to at least one key habitat factor of the habitat type concerned. Such a key factor could be wetness in the case of wetlands, or peaty soil for bog habitats, or scree for ravines, etc.

The application of characteristic species in practice, like in the mandatory assessment of projects and plans under article 6 of the habitats directive should primarily focus on the effects of the plan or purpose to be assessed. Out of the pool of characteristic species of a given habitat, those species which depend on the relevant key factors of the habitat which are possibly altered by the project or plan to be assessed can be selected and their well-being evaluated or monitored.

In a second application, which is that for management of a site (also under article 6), the degree of completeness of the pool of characteristic species allows the evaluation of the conservation status. Important conclusions as to which key factors might be lacking or are in an insufficient stage can be drawn from the characteristic species missing at a given site. This can be a property related to habitat tradition, size of the habitat, isolation or certain traits of the soil or the stand types to be evaluated, depending on the particular species and their statistically proven requirements.

## **Keywords**

Carabidae, EU habitats directive, fauna flora habitat directive, ffh directive, natura 2000, characteristic species, proper assessment of projects of plans, habitat management, article 6

## **Presenting author**

Dr. Stefan Müller-Kroehling

## **Presented at**

19thECM oral communication