Outline of a planned Special Issue on
“Global overview of plot-based vegetation classification approaches”

**Journal:** *Phytocoenologia*, now officially published in collaboration with the International Association for Vegetation Science (IAVS); Impact factor 2014 was 1.742 (and is growing)

**Tentative Special Issue Editors:** Miquel De Cáceres (Spain), Jürgen Dengler (Germany), Scott Franklin (USA), Pavel Krestov (Russia), Flavia Landucci (Czech Republic/Italy), John Hunter (Australia), Dave Roberts (USA)

**Tentative publication:** as issue 2017/2 (i.e. approx. April or May 2017)

**Content:** The Special Issue aims at being a 21st century update on Whittaker (1973) by providing an overview on the diversity of plot-based vegetation classification approaches used in different parts of the world. To make the individual treatments well comparable, all submissions will follow the same structure as outlined below and use the consensus terminology described in a recent multi-author paper (De Cáceres et al. 2015; attached).


We aim at presenting the diversity of contemporary classification approaches as comprehensively as possible. Therefore we will solicit contributions from many different parts of the world but limit the length of each individual contribution. There are two types of papers: *research papers* describing a single well-elaborated approach in all detail (ca. 8 pages in print) and *review papers* providing an overview of several methodologically or geographically related approaches (ca. 15 pages in print). Moreover, there will be a *synthesis* prepared by the S.I. Editors. Since the overall space is limited to ca. 140 printed pages (i.e. one extra-thick issue), we assume that we can accept about 10 papers on single approaches and about 3 review papers.

To clarify what we mean with a single-approach paper we would like to highlight that the “Braun-Blanquet approach” in this respect is NOT a single approach, but a group of hundreds of different approaches that share some properties but deviate strongly in others. In such a case we will try to get one or several examples of single-approach papers, each of which describes one variant of the Braun-Blanquet approach that has been successfully implemented in all details, plus one review article that tries to summarize the commonalities and differences of the many other Braun-Blanquet approaches.

**Procedure:** Call for contributions (open call to Working Group members, IAVS members and people connected to Phytocoenologia plus individual solicitations) in March 2016. Agreements to contribute should be sent to the S.I. Editors until 15 April 2016. Also suggestions for modification of the overall structure are welcome.
Proposed submissions will be evaluated by S.I. Editors and Chief Editors, leading to an official start of the S.I. and invitation of selected contributions. If space and time allow, invitation of additional contributions is possible.

Submissions are only possible after invitation! If you are interested in submitting a contribution, please contact one of the S.I. editors

After invitation: You will have time to submit your invited manuscript online until a certain **deadline in autumn 2016**. Manuscripts have to adhere to the Author Guidelines of Phytocoenologia (attached) and follow the structure and terminology outlined below. Based on experiences with initial submissions, there might be minor adjustments of this structure to increase readability and relevance of contributions. All submissions will be subject to peer-review organised by the S.I. Editors. The review will focus on the clarity of the presentation of each step in your approach. While there is a strict page limit for the printed papers, there is ample of opportunity to publish additional material in online supplements.

Tentative outline of the structure of invited contributions to the Special Issue

Note that details of the structure might be adjusted later on. Papers presenting a single approach should fit on 8 printed pages; review papers describing a whole set of approaches may be up to 15 printed pages. The latter type of article will often use tables to provide overview of the diversity of solutions found within the reviewed approaches concerning certain steps or elements.

It is important that all articles adopt the terminology of the Comparative Framework (further: CF; De Cáreres et al. 2015).

Abstract

The xy approach

**Purpose, scope and history of the classification approach**

- What are the expected uses of the classification approach (e.g. vegetation mapping, habitat conservation, biodiversity monitoring)?
- Ecological (thematic) scope: What is the range of ecosystems that can be described with this approach (e.g., forests, wetlands)?
- Was the development of the classification approach the result of a personal initiative? Was it commissioned by an administration or an NGO?
- List of most important achievements (e.g., are the conceptual basis, vegetation sampling protocols and classification protocols published?).

Application of this approach

**Brief description of classification systems issued from the application of the classification approach** (if several, use subsections)

- Spatial scope: Geographical area (e.g., North America)
- Temporal scope: Time window during which the classification system is intended to comprehensively represent the vegetation of the target geographic area (e.g., from 1950 onwards).
- Has the classification system been integrated into a broader classification system?
• Current degree of completeness (with respect to spatial, temporal and ecological scopes) and future plans.
• Examples of actual application of the vegetation types (e.g. published list of protected habitats).
• Supporting infrastructure (e.g., description of on-line databases, web sites, etc.)

Main features of the classification approach
• Does the classification approach produce classification systems with many classification levels?
• Are vegetation types of fine resolution levels always nested within types of a coarser resolution level? If so, how is nestedness ensured when defining new vegetation types?
• Are classification protocols uniform, or can one differentiate several consistent classification sections (CCSs) (e.g. are wetlands classified with the same criteria as forests?)? If CCS can be distinguished, do they correspond to classification levels?

Classification protocols
(if there are several CCSs, use subsections)
• Ecological scope (only if it is a subset from the scope mentioned in Application of the approach).
• Typological resolution(s) (can be several if the protocol deals with several classification levels simultaneously).
• Spatial grain (i.e., size of vegetation plots).
• List of primary vegetation attributes (i.e., set of vegetation attributes that are used to determine whether plots are members of the same or different classes).
• Constraining attributes (if any): What attributes are used to constrain the definition of vegetation types? How do constraining attributes influence the classification protocol?
• Properties of class definition procedures
  a. Do the vegetation types produced include extensive class definitions (i.e. lists of plots that are members), intensive class definitions (i.e. attribute values that are required for a plot to be a member), or both?
  b. Are vegetation types boundary-based (or node-based)?
  c. Are vegetation types defined by expert knowledge only, numerical methods only, or both? Explain.
• Summary of plot-based definition procedures (if numerical methods are used):
  a. Acquisition of plot data (see Table 4 of the comparison framework)
  b. Preparation of plot data (see Table 5 of the CF)
  c. Grouping plot records (see Table 6 of the CF)
  d. Evaluation of vegetation types (see Table 7 of the CF)
  e. Characterization of vegetation types (see Table 8 of the CF)
  f. Creation of assignment rules

Advantages and limitations of the approach
• Discuss how this classification approach fulfills the purpose for which it was conceived; also indicate the limitations of the classification.
• Why might others want to use this classification approach? What are the challenges of its utilization?
• Are there aspects you would like to change/improve in the future?
Author contributions

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References