Turkish Journal of Botany

Volume 27 | Number 3 Article 1

1-1-2003

Towards Common Standards in Phytosociological Papers Submitted to the Turkish Journal of Botany: A Letter from the Editor

GERALD PAROLLY

Turk J Bot
27 (2003) 163-165

Letter to the Editor

Towards Common Standards in Phytosociological Papers Submitted to the Turkish Journal of Botany: A Letter from the Editor

Gerald PAROLLY
Freie Universität Berlin, Institut für Biologie, Systematische Botanik & Pflanzengeographie, Altensteinstraße 6, D-14195 Berlin, GERMANY

Received: 20.12.2002
Accepted: 30.12.2002

The last years have seen the *Turkish Journal of Botany* on its successful way from a more regional to an international journal. An increasing number of referees from abroad were and will be consulted, in an effort to improve the quality of the contributions and thus address a wider circle of contributors and readers.

However, it should also not be denied that this international orientation continues to cause some irritations and difficulties of change for parts the local community of scientists. The following lines intend to overcome some of the conceptual problems encountered in the field of vegetation science and recommend a number of standards for phytosociological papers submitted to the *Turkish Journal of Botany* to come closer to a common base for future vegetation surveying projects (cf. Mucina et al., 2000 and references given therein).

Delimiting and naming units

Owing to the easier language access, the standard reference in Turkish phytosociology is mostly Braun-Blanquet (1932) (this is the English translation of the first edition of his book from 1928), dating back to the childhood of phytosociology and reflecting the state of the art of the 1930s. Contemporary phytosociology uses in many respects deviating methods and concepts, partly already modified by Braun-Blanquet himself in the 3rd edition (1964) of his textbook. Many things have changed since 1964 and are still in motion. Braun-Blanquet (1964) can still be used as a basic textbook, if one additionally consults more recent works such as Dierssen (1990), Dierschke (1994), or Frey & Lösch (1999). The outdated English version is nevertheless a good tool for translating the German terminology.

Among the fundamental changes within the last 70 years the most important point is the altered concept of association. At first, all character species were exclusively considered to be only of local indicator value (and established on account of very local studies), rendering large-scale studies very hard, if not impossible. Later, the still widespread concept of regional character species was used, while there is increasing support to demand and accept absolute character species, which are then nothing else but particular differential species (Dierschke, 1994 and especially Willner, 2001)

In Turkey, the concept of local associations implemented by the use of Braun-Blanquet (1932) and a very hesitating acceptance of synoptic tables is one of the major reasons for the inflation of syntaxa described from Turkish grounds. Many superfluously described "associations" are based on major (= super-ordinate) character species. Establishing synoptic schemes and some statistical parameters may avoid the production of the many-fold descriptions of one and the same association.

Many authors do not distinguish critically enough between the terms (and concepts) "community" and "association". They name all their units distinguished in one area associations. However, only a small percentage of all stands sampled in the field may locally represent an "association". Mostly, one is encounters base, fragmentary, derivative or dominance communities in the

sense of Kopecky & Hejny (1978) without particular character species. Such stands can be classified and named rankless communities only, but can often be attached to a major syntaxon (deductive classification of syntaxa).

It should also be recalled that the concepts of geographical races, altitudinal forms and edaphic subunits of associations are helpful tools in classifying locally or regionally vegetation units and dam up the flood of new associations. Those who write local monographs especially ought show some retention in describing new syntaxa. Rankless communities are in most practical respects fully workable and do not end up in synnomenclatural problems in case of heterogeneity. The quality of a paper is not lowered if it includes rankless communities only and no new syntaxa. In some cases it may be advisable to establish in the first step some critical units provisionally, and validate them elsewhere if later confirmed by more data.

All nomenclatural procedures should follow the "Code of Phytosociological Nomenclature" (CPN; Weber et al., 2000).

Demand for homogeneity and floristic quasi-completeness

Another point that may cause problems in accepting units are short-comings in floristical and site-ecological homogeneity (e.g., relevés of rock communities based on square-sizes of 100 m^2 sample in most cases a catenal vegetation mosaic rather than one community, while 1-6 (10) m^2 are much more appropriate). Allow me to raise another point: many relevés consider exclusively vascular plants. This is acceptable in a good deal of habitats, but is a knock-out criterion in many wetland communities and high mountain vegetation types of Euro-Siberian character, which are abundant in cryptogames, be it bryophytes or lichens.

Estimation scales and life forms

Continuing to use the "old" and outdated Braun-Blanquet scale (1928) sets the relevés partly out of comparability; this gains special importance if community-based calculations of chorotype spectra or all types of biospectra are given weighted (spectra based on an average cover percentage). Barkman et al. (1964) rightly criticised the old scale and suggested that to overcome the prime problem a new subdivision of the lower part of the scale (**2m** = many individuals (>100), but cover < 5%; **2a** = cover 5-12.4%; **2b** = cover 12.5-25%; all other values in its traditional conception). Very similar are the definitions of Reichelt & Wilmanns (1973): **2m** = many individuals (>50), cover< 5%; **2a** = cover 5-15%; **2b** = cover 16-25%. The most recent change includes the replacement of "2m" by "1m" (Dierschke, 1994). For a discussion of the problems related and different scales, see Dierschke (1994).

The complete 9-point scale, as recommended here, reads as follows (cf. Frey & Lösch, 1998): **r** = 1 individual, (also rare outside the relevé, small plant); **+** = 2-5 (small) individuals, cover< 5%; **1** = 6-50 individuals, cover< 5%; or few larger individuals (often given as 1-5) with a cover up to 5%; **1m** = many individuals (>50), cover< 5%; **2a** = cover 5-12.4%; **2b** = cover 12.5-25%; **3**, **4** and **5** (as in traditional definitions).

For the use of sociability, see the textbooks cited above; for plant life forms, see in addition Ellenberg & Mueller-Dombois (1967).

Chorotypes

The treatment of chorotypes as dealt with in many phytosociological and floristic papers is a permanent source of disagreement. There is no doubt that the "Flora of Turkey and the East Aegean Islands" (Davis, 1965-1985; Davis et al., 1988; Güner et al., 2001) should be the major (but not only) taxonomic and nomenclatural reference and that it is a good base for chorological analysis. However, one has to bear in mind that particularly the older volumes are outdated in certain respects, with, e.g., former "Anatolian endemics" now also recorded from adjacent countries. It is among the features and pragmatic decisions of the "Flora of Turkey" that the indication of chorotypes is rather incomplete as soon as the taxon is neither endemic nor fits into one of the major Turkish phytochoria (E Mediterranean, Irano-Anatolian, Euxine, etc.). Needless to say that it is misleading to come to the conclusion, as done in many papers already published, that the chorotype of such species is "unknown" or "widespread", if not explicitly stated. It is often a laborious task to find out the chorotype of a taxon. This can only be mastered after consulting a wide range of references (country-wide floras, chorological atlases, revisions, local or monographs) and sometimes one has to coin the chorotype oneself, if not yet published. The many

occurring bi- or triregionals (e.g., E Mediterranean/Irano-Anatolian) can be either treated separately in chorotype spectra or split up arithmetically, if the stress is laid onto the genoelement. In many cases, scanning "Flora of Turkey", "Med-Checklist" (Greuter et al., 1984-1989) and the "Conspectus Florae Orientalis" (Heller & Heyn, 1986-1994; Zohary et al., 1980, 1983) and Zohary (1973) already brings reasonable results for all species with a main distribution in the Mediterranean region and "Flora Orientalis" area.

The ***Turkish Journal of Botany*** provides a fine platform for the discussion of conceptual problems. I thus suggest to include in it, at irregular intervals, a Discussion Forum made up by short communications on problems and solutions, hints for colleagues, personal letters and viewpoints to express, which may help to coordinate future vegetation studies. It goes without saying that such a forum is not exclusively designed for vegetation ecologists, but may be found useful by colleagues from all sections present in the ***Turkish Journal of Botany***: all authors are cordially invited to contribute to it.

With my best wishes

Gerald PAROLLY

References

Barkman JJ, Doing H & Segal S (1964). Kritische Bemerkungen und Vorschläge zur quantitativen Vegetationsanalyse. *Acta Bot Neerl* 13: 394-419.

Braun-Blanquet J (1928). *Pflanzensoziologie. Grundzüge der Vegetationskunde*. 1. Aufl. In: Schoenichen W (ed.) Biologische Studienbücher 7. Berlin: Springer Verlag.

Braun-Blanquet J (1932). *Plant Sociology. The study of plant communities*. New York, London: McGraw Hill Book Company.

Braun-Blanquet J (1964). *Pflanzensoziologie. Grundzüge der Vegetationskunde*. 3. Aufl. Berlin, Wien, New York: Springer Verlag.

Davis PH (1965-1985, ed.). *Flora of Turkey and the East Aegean Islands*, Vols. 1-9. 1965 (1), 1967 (2), 1970 (3), 1972 (4), 1975 (5), 1978 (6), 1982 (7), 1984 (8), 1985 (9). Edinburgh: Edinburgh University Press.

Davis PH (1971). Distribution patterns in Anatolia with particular reference to endemism. In: Davis PH, Harper PC & Hedge IC (eds.) *Plant Life of South-West Asia*, pp. 15-27. Edinburgh: Royal Botanic Garden, Edinburgh.

Davis PH, Mill RR & Tan K (1988, eds.). *Flora of Turkey and the East Aegean Islands*, Vol. 10. Edinburgh: Edinburgh University Press.

Dierschke H (1994). *Pflanzensoziologie*. Stuttgart: Verlag Eugen Ulmer.

Dierssen K (1990). *Einführung in die Pflanzensoziologie (Vegetationskunde)*. Darmstadt: Wissensch. Buchgesellschaft.

Ellenberg H & Mueller-Dombois D (1967). A key to Raunkiaer plant life forms with revised subdivisions. Ber Geobot Inst ETH, Stiftg Rübel, Zürich 37: 56-73.

Frey W & Lösch R (1998). *Lehrbuch der Geobotanik. Pflanze und Vegetation in Raum und Zeit*. Stuttgart, etc: Gustav Fischer Verlag.

Greuter W, Burdet HM & Long G (1984-1989, eds.). *Med-Checklist*, Vols. 1, 3-4. 1984 (Vol. 1), Pteridophyta (ed. 2), Gymnospermae, Dicotyledones (Acanthaceae-Cneoraceae); 1986 (Vol. 3), Dicotyledones (Convolvulaceae-Labiatae); 1989 (Vol. 4), Dicotyledones (Lauraceae-Rhamnaceae). Genève.

Güner A, Özhatay N, Ekim T & Başer KHC (2000, eds.). *Flora of Turkey and the East Aegean Islands*, Vol. 11. Edinburgh: Edinburgh University Press.

Heller D & Heyn CC (1986-1994). *Conspectus Florae Orientalis. An Annotated Catalogue of the Flora of the Middle East*, Vols. 3-9. 1986 (Vol. 3), Pyrolaceae to Lamiaceae; 1987 (Vol. 4), Solanaceae to Dipsacaceae; 1990 (Vol. 5), Mimosaceae to Podostemaceae; 1991 (Vol. 6), Alismataceae to Orchidaceae; 1993a (Vol. 7), Cornaceae to Umbelliferae (Apiaceae); 1993b (Vol. 8), Campanulaceae to Compositae; 1994 (Vol. 9), Lycopodiaceae to Droseraceae. Jerusalem: Israel Academy of Sciences and Humanities.

Kopecky K & Hejny S (1978). Die Anwendung einer deduktiven Methode syntaxonomischer Klassifikation bei der Bearbeitung der straßenbegleitenden Pflanzengesellschaften Nordostböhmens. *Vegetatio* 36: 43-51.

Mucina L, Schaminée JHJ & Rodwell JS (2000). Common data standards for recording relevés in field survey for vegetation classification. *J Vegetation Science* 11: 769-772.

Reichelt G & Wilmanns O (1973). *Vegetationsgeographie*. Braunschweig.

Weber HE, Moravec J & Theurillat JP (2000). International Code of Phytosociological Nomenclature. 3rd ed. *J Vegetation Science* 11: 739-768.

Willner W (2001). Assoziationsbegriff und Charakterarten im Zeitalter der numerischen Klassifikation. *Ber Reinh-Tüxen*-Ges 13: 35.52.

Zohary M (1973). *Geobotanical Foundations in the Middle East*, Vols. 1-2. Stuttgart: Gustav Fischer Verlag.

Zohary M, Heyn, CC & Heller D (1980, 1983): *Conspectus Florae Orientalis. An Annotated Catalogue of the Flora of the Middle East*, Vol. 1-2. 1980 (Vol. 1), Papaveraceae to Neuradaceae; 1983 (Vol. 2), Oxalidaceae to Hippuridaceae. Jerusalem: Israel Academy of Sciences and Humanities.