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NUMERICAL CLASSIFICATION OF *XANTHORION* COMMUNITIES IN NORTH EASTERN ITALY

CLASSIFICAZIONE NUMERICA DI SINUSIE LICHENICHE EPIFITE (XANTHORION) DELL'ITALIA NORD ORIENTALE

Abstract - A numerical classification of 250 relevés of epiphytic vegetation belonging to the *Xanthorion parietinae* in North-eastern Italy led to the distinction of 9 community-types. Distribution and ecology of each type are briefly discussed.

Key words: *Xanthorion parietinae*, Lichens, Epiphytes, North-eastern Italy, Numerical classification.

Riassunto breve - Una classificazione numerica di 250 rilievi di vegetazione epifitica appartenente allo *Xanthorion parietinae* nell'Italia Nord-orientale ha portato alla distinzione di 9 tipi di vegetazione. Viene brevemente discussa la distribuzione e l'ecologia di ciascun tipo.

Parole chiave: *Xanthorion parietinae*, Licheni, Epifite, Italia Nord-orientale, Classificazione numerica.

Introduction

The *Xanthorion parietinae* is among the most thoroughly studied alliances of epiphytic synusiae: no less than 585 phytosociological records are available in the literature for the european region (BARKMAN, 1958). However, with the exception of two narrow areas in South Tyrol (STEINER, 1952; TOMASELLI & DE MICHELI, 1952), Italy represents a black hole as far as the knowledge of this alliance is concerned. In the present paper we give a first synthesis of *Xanthorion*-vegetation in North-eastern Italy. The results are based on 250 phytosociological

releves taken on isolated wayside trees. The location of the sample plots (see maps) was chosen in such a way as to allow a maximum of geographical and ecological variation to be recorded.

Methods

The releves were taken with the classical Braun-Blanquet method. The cover scale is the Braun-Blanquet scale as modified by PIGNATTI (1954). Mean plot size is 0.4 m². Only North and South exposures were taken into consideration.

The releves have been subjected to cluster analysis with Complete Linkage Clustering (ANDERBERG, 1973) based on Van der Maarel's coefficient as similarity function. 9 main clusters have been obtained. A phytosociological table has been constructed by ordering the releves according to their sequence in the dendrogram. From this table a synthetic table has been obtained (tab. I) by calculating the frequencies of each species within each group. The complete phytosociological table and the dendrogram of the releves are not presented in this paper for reasons of space.

For each group life form, growth form and dissemination spectra have been calculated (respectively LFS, GFS, DS in the text). Life forms and growth forms are according to BARKMAN (1958). The dissemination spectrum takes into consideration only the main way of reproduction of the single species in the study area.

In order to give a synthetic view of the relations among the 9 groups, the contingency table was submitted to Cluster Analysis, with Complete Linkage Clustering on Similarity Ratio (WESTHOFF & VAN DER MAAREL, 1973) and to Principal Component Analysis, with program SIPLO (FEOLI CHIAPPELLA & FEOLI, 1977) on Similarity Ratio.

The pH of the bark was measured in the laboratory on the basis of pulverized samples of bark (gr 3) in distilled water with a digital pH-meter. Nomenclature follows POELT (1969, 1977).

In the following pages a brief description of the single types is given.

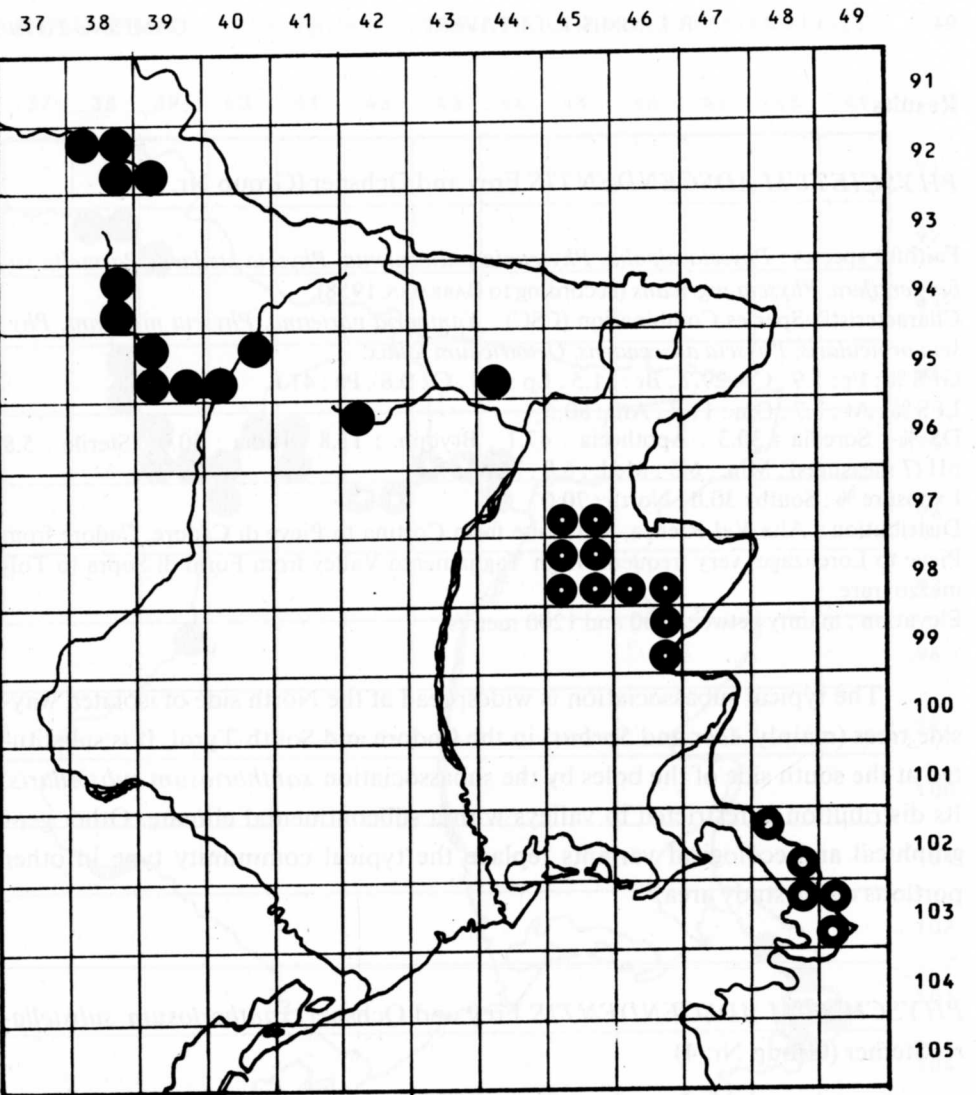


Fig. 1 - Distribution of
- Distribuzione di

- *Physcietum adscendentis* typicum
- *Physcietum elaeinae* var. *candelariosum concoloris* facies with *Physcia clementii*
- *Parmelietum acetabulae* var. *glabrosium*

