



Lapse rates-induced variations of the vegetation cover in the North-western Alps: a model for quantitative reconstruction from pollen data.

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Modern pollen data collected along an altitudinal transect in the Aosta Valley (North-western Italian Alps) were compared to vegetation surveys from the same area (Siniscalco, 1995) in the aim of providing transfert coefficients for the quantitative reconstruction of holocene vegetation cover from pollen data from the alpine area. The results are based on a calculation of relationship within given vegetation belts (e.g., collinean, mountain, alpine). Pollen and plant assemblages with the highest R² within a belt were averaged in artificial assemblages representative of each belt. Transfer coefficients from pollen to vegetation percentages have then been calculated for every taxon. These coefficients have been tested on modern pollen data from the Taillefer Massif (North-western French Alps) from the work of Brugiapaglia et al. (1998). Correspondence Analysis (CA) and Factor Analysis FA were performed on pollen data to underline statistical similarities and differences between pollen assemblages within comparable vegetation belts in the two areas. High similarities between pollen as-

semblages from the two areas are found within the alpine grasslands dominated by Caryophyllaceae over 2500 m asl and by Poaceae between 2000 and 2500 m asl, the Ericaceae-dominated shrub-lands (1800-2000 m asl), and the Picea-dominated forests in the mountain belt. The application of the calculated transfer coefficients to pollen assemblages from these selected vegetation belts on the Taillefer Massif yields a reconstruction of vegetation cover as percentages of different taxa, allowing direct comparison with available vegetation surveys from this area (Brugiapaglia et al., 1998). This application aims to serve as a validation step for the development of a model for further application to fossil pollen data from the alpine area in the aim of reconstructing the evolution of vegetation cover during the Holocene.

Brugiapaglia E., Beaulieu de J.L., Guiot J., Reille M., 1998 - Transect de pluie pollinique et étagement de la végétation dans le massif du Taillefer (Isère, France). *Géographie physique et Quaternaire*, 52 (2): 209-218.

Siniscalco C., 1995 – Impact of tourism on flora and vegetation in the Gran Paradiso National Park (NW Alps, Italy), *Braun-Blanquetia*, Review of Geobotanical Monographs, Camerino, Italy, 59 pp.