

Abstract

Polyploidy plays a key role in plant evolution. Among other things, it also has a major impact on the migratory ability and adaptability of plants. This paper summarizes the known characteristics of polyploidy and its relationship to geographic distribution, including the latitudinal trend, or the increase of polyploids with latitude (especially northwards). Subsequently, the distributional patterns of polyploid plants are examined in this paper using specific studies within the Northern Hemisphere, where there is a large amount of data regarding polyploid distribution, particularly in Europe and North America. Attention is also focused on the occurrence of polyploidy in the Southern Hemisphere, with particular reference to South America. However, the distribution of polyploids in the Southern Hemisphere has not been studied as extensively as in the Northern Hemisphere. Nevertheless, some meta-analyses and case studies suggest a similar trend to that in the Northern Hemisphere. In addition, the paper also discusses indications of polyploid evolution in the plant species *Berberis empetrifolia* and *Ephedra chilensis*, which could be suitable model groups in the future. The paper concludes by summarizing ambiguities such as the difficulty in distinguishing the latitude from deglaciated territory or the mixed effect with hybridization and apomixis.

Key words: polyploidy, cytogeography, latitudinal gradient, Southern Hemisphere