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Visualization of vegetation landscape of the past by geocoding the Herbarium Specimens information

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The necessity to grasp and record the long-term change in the environment and the living thing came to be recognized along with the recent changes in global environment and ecosystem. In the field of botany, specimens as a basic material for the plant research have been collected with Herbarium over many years. Though a lot of useful information is contained in these specimens, only partial information has been published and organized. On the other hand, the recent progress of the technology of GIS (Geographical Information System) enabled us to process a large amount of geospatial information and to represent it visually.

The author tried to put the information on the specimen data base of the Makino Herbarium in Tokyo Metropolitan University into GIS by giving geographic coordinates with reconstruction of a present name of the place where the specimens were collected. Analysis of the geocoded specimen data with GIS clarified the geographical distribution and spatial relationships of many specimens. In addition, the vegetation landscape since the Meiji era and its changes can be visualized with detailed plant species name using the Google Earth.

Keywords: Herbarium, specimen, GIS, vegetation history, vegetation landscape, Google Earth