

Mapping of Spatial Distribution of *Boletus edulis*, and *Chanterelle cibarius*

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Aim of the study: The forest is the most important resources for edible or non-edible wild mushrooms. Mapping of spatial distribution in mushrooms is increasingly important for preparing forest management planning. Forest management plans integrated spatial distribution map of mushroom can provide a wide range of alternatives for management of biodiversity and conservation of mushrooms. Geographic Information Systems (GIS) potentially can be used for mapping of species through the spatial database. The spatial distribution maps developed by GIS can play an important role in sustainability of forest values. The objective of this study is to develop the spatial distribution map of *Boletus edulis*, and *Chanterelle cibarius* mushrooms in Bicik planning unit of Turkey with GIS.

Material and Methods: This study was conducted in the Bicik Planning Unit, northwestern Turkey. The study area covers about 11,554 ha forested area. The forested area was composed by *Fagus orientalis*, *Picea orientalis*, *Abies sp.* and *Carpinus sp.* species. In the field survey the expert visited total 75 sample plots randomly distributed throughout the forested areas representing a range of different topographic and stand characteristics. Absence or presence of the related mushrooms in the each sample plots was determined without picking of the mushrooms. All plots were visited four times in mushroom season of 2013. The occurrence of the related mushroom in the each plot recorded as binary with location through GPS. Spatial database showing spatial distribution of mushroom species in the study area was created and then a point layer showing the occurrence of the related mushroom species in the each sample point was created by using some functions of GIS in Arc/Info 10.0™. Thiessen polygon method was used to allocate all points with the same quality for the mushroom occurrence. Then the polygon layer indicating occurrence of related mushroom species was combined with stand type map of the planning unit.

Results: Based on the field data, spatial distribution of *Boletus edulis*, and *Chanterelle cibarius* were mapped by using geographic information systems in the area. In conclusion, spatial distribution maps of mushroom species can be produced by using the practical and useful method demonstrated in this research.

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Keywords: Spatial distribution, *Boletus*, *Chanterelle*, mapping, forest ecosystem, GIS.