Abstract for SWS symposium

Relationship between mire vegetation and volcanic activity: a case study from Tadewara mire, South-Western Japan.

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【Abstract】

Most Japanese mires are affected by the volcanic activity such as deposition by volcanic ash. Some mountainous mires experience frequent disturbance by volcanic activity. Relationship between volcanic activity and vegetational change with special reference to chemical deposition from volcano has been investigated in Tadewara mire. Three peat cores of 210 cm, 270 cm, and 420 cm were collected for plant macrofossil analysis and chemical analysis. Two distinct horizons consist of volcanic glass were observed at 160 and 252 cm depths. Composition of plant macrofossil and exchangeable cation changed at the volcanic glass layers. A distinct peak of sulfur content in peat core was found at the depth of 110 cm. Elemental composition of peat core shows that content of carbon, nitrogen, and hydrogen decreased corresponding to the increase of sulfur. Dominant species of macrofossil community started to change from *Sphagnum* spp. to *Phragmites australis* just corresponding to the increase of sulfur at 110 cm. Increase in sulfur content started at 970±40y.B.P (^{14}C dating) and it just corresponded to the peak of volcanic activity of Mt. Kurotake near by Tadewara mire. Thus we concluded that mire vegetation changed from ombrotrophic to minerotrophic community by sulfur deposition due to the volcanic activity.