Abstract

The road across the forest can cause the diversity exchange in the forest ecosystem. Distribution of the exotic species caused by the road are the main factor affecting the extinction of the native plants. The forest corridor in Halimun Salak National Park is separated by the road which is connecting five villages in surroundings. The aims of the research were to determine the response of diversity and abundance of the understory plants to the road existence, to obtain the effect of the road to the habitat condition, and to identify the exotic plants and its relation to the road. Vegetations were observed by transect sampling system, 5 transects of 150 m length were placed in forest corridor side along the road. In each transect, there were 12 sampling plots (1m x 1m) placed in distance (from the road): 0, 5, 10, 15, 20, 30, 40, 45, 60, 90, 120, and 150 m from the road. The distance of each transect was approximately 100 m and each transect were placed in the corridor area having forest buffer about 100 m distance. There were 117 plant species including 9 exotic species. Plant community analysis using Squared Euclidean Distance (SED) showed that road side area to 5 m in distance showed the different composition of the understory plant to inside the forest. Exotic plants and grass dominated in the area close to the road. Canopy cover in the road side to 10 meter to the forest was relatively opened than inside the forest. Plant diversity analysis on both of all species and local species using Canonical Correspondence Analysis (CCA) showed that species diversity of understory plants was not significantly affected by the distance from the road. Nevertheless, distance from the road was a main factor influencing the exotic species, while distance of 0 m showed the highest exotic plants diversity.