

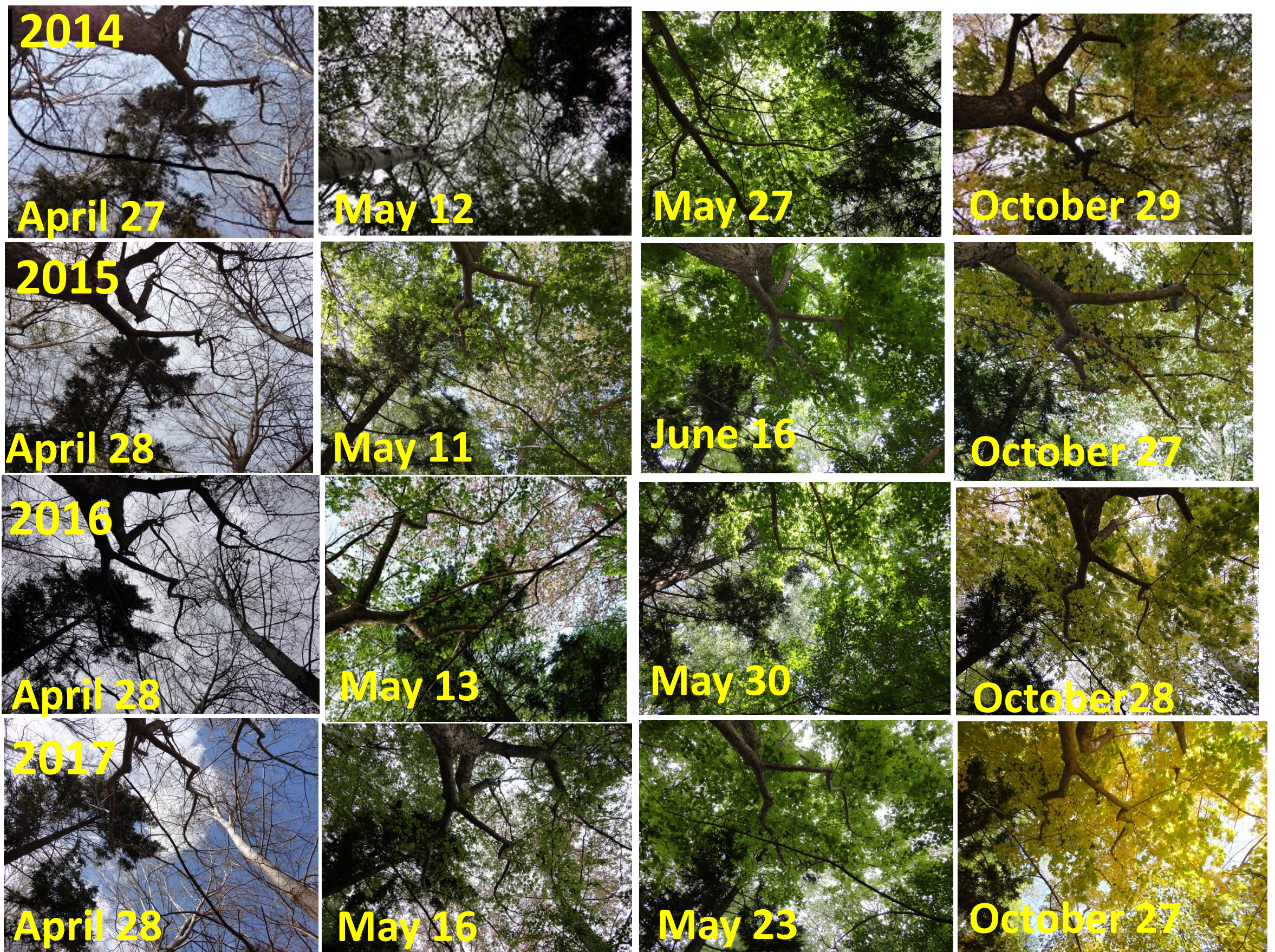
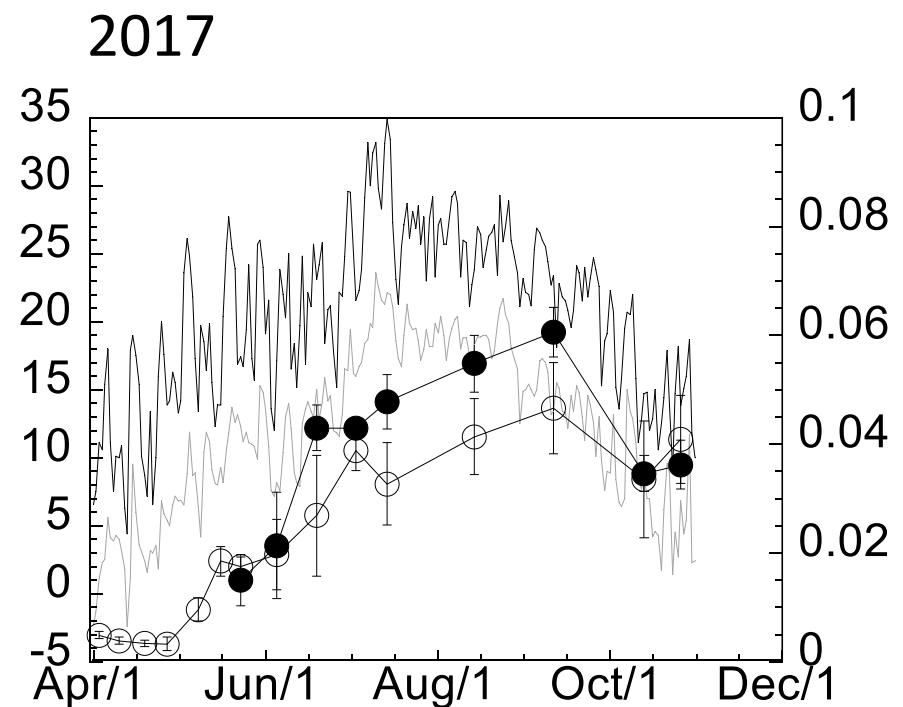
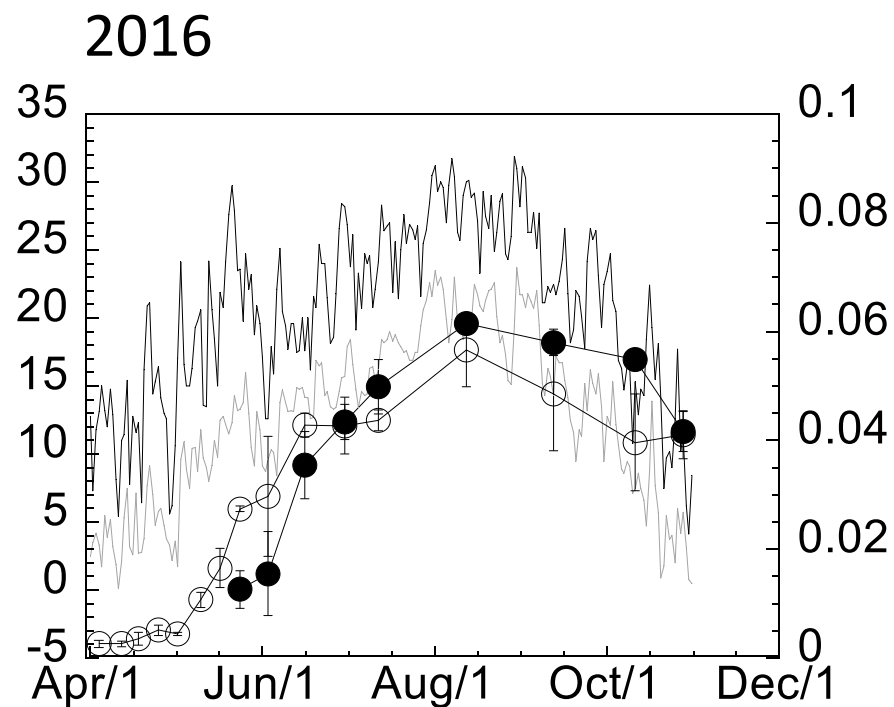
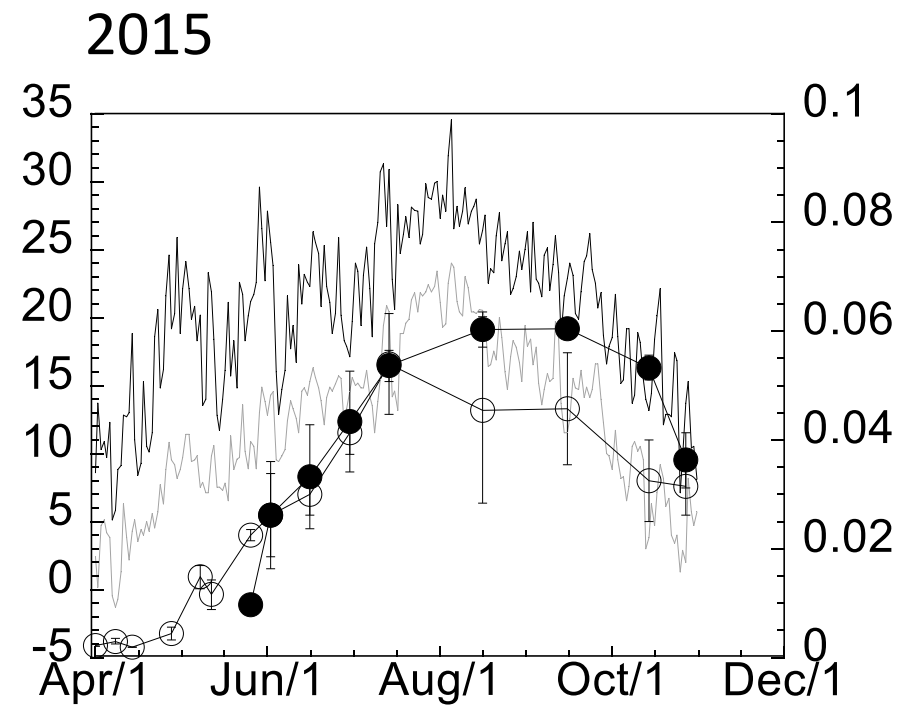
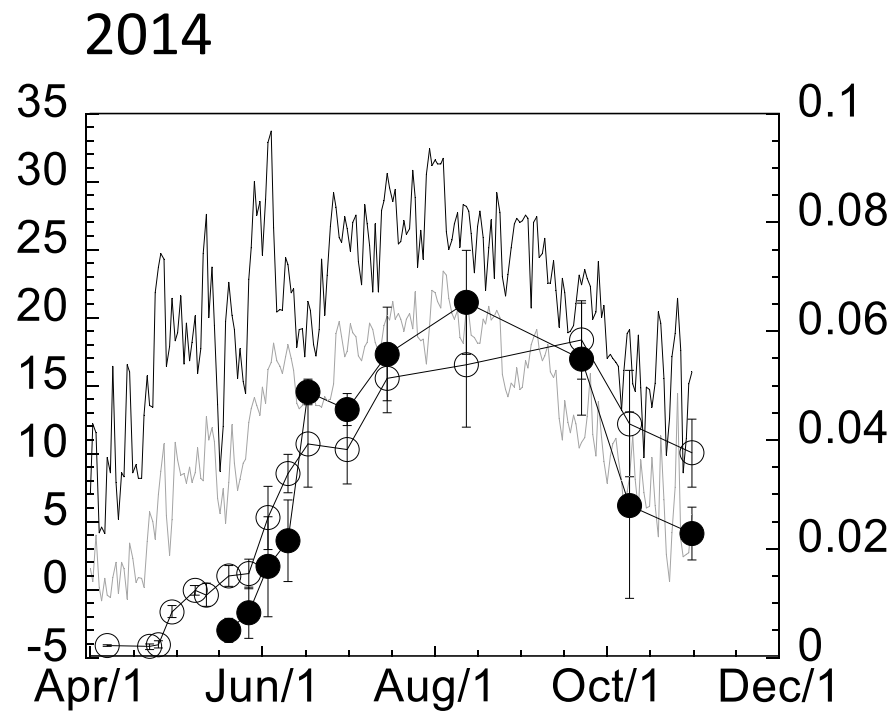


Fig S1. Photographs of the upper canopy trees taken from the forest floor. Dates when the photographs taken are shown in the bottom of the photographs.

Air temperature (°C)



α -Carotene (mol mol⁻¹Chl)

Fig S2. Seasonal changes in the minimum (grey lines) and maximum (black lines) temperature of the day at Sapporo as shown in Figure 1. Seasonal changes in α -carotene per chlorophyll (a + b) as shown in figure 9 are overlaid. Open and closed circles indicate data from the overwintering leaves and the current-year leaves, respectively. Each data point represents the mean of $n = 3-4$ leaves ($\pm$ standard deviation).