



Figure S1 The discrimination of proheterocysts, mature heterocysts and vegetative cells in a trichome. The trichome was separated from the softened colony (filament) of *N. flagelliforme* after rehydration. The observation was conducted under white light (upper panel) or fluorescence (lower panel) using a microscope (Axio Scope A1, Zeiss Inc.). Heterocysts are enlarged cells with thick cell walls and they do not contain chlorophyll, giving them a colourless appearance (particularly obvious under the fluorescence). The red arrow points to mature heterocysts; the blue arrow points to proheterocysts. Sizes of vegetative cells, 4–6 μm .