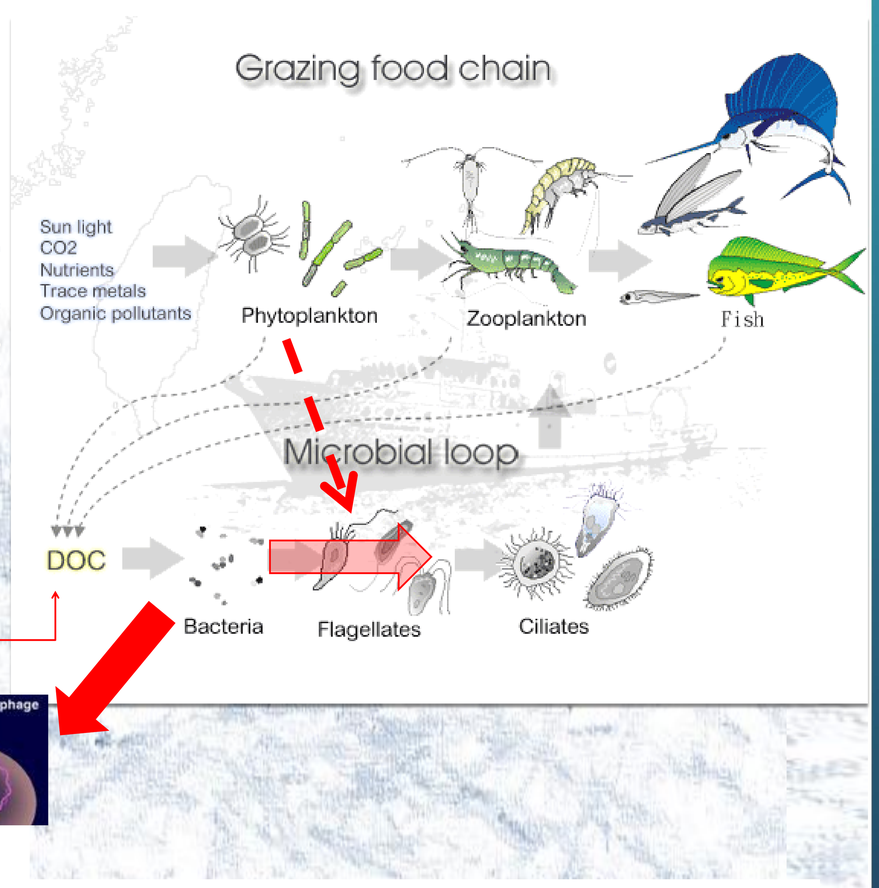
國立臺灣海洋大學　海洋科學與資源學院
海洋環境與生態研究所
Institute of Marine Environment and Ecology
National Taiwan Ocean University

Diel abundance, growth and loss rates of *Synechococcus* spp. and picoeukaryotes in coastal waters during summer

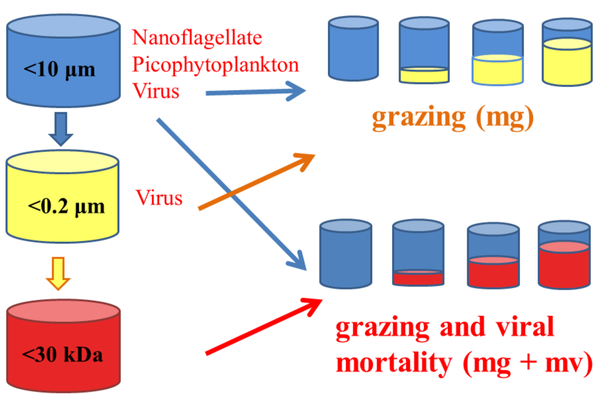
I-Ting Huang [1], An-Yi Tsai [1]
[1] Institute of Marine Environment and Ecology,
National Taiwan Ocean University, Keelung 202-24, Taiwan

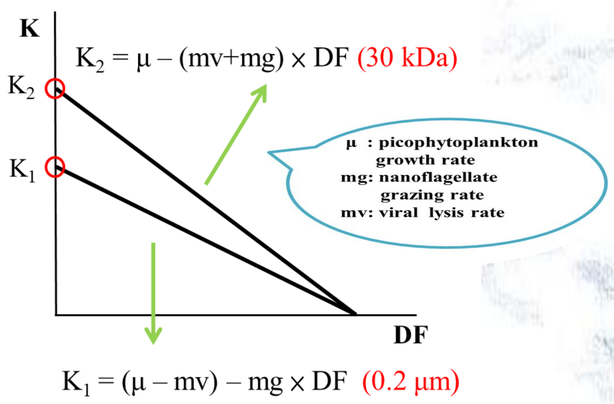
Introduction

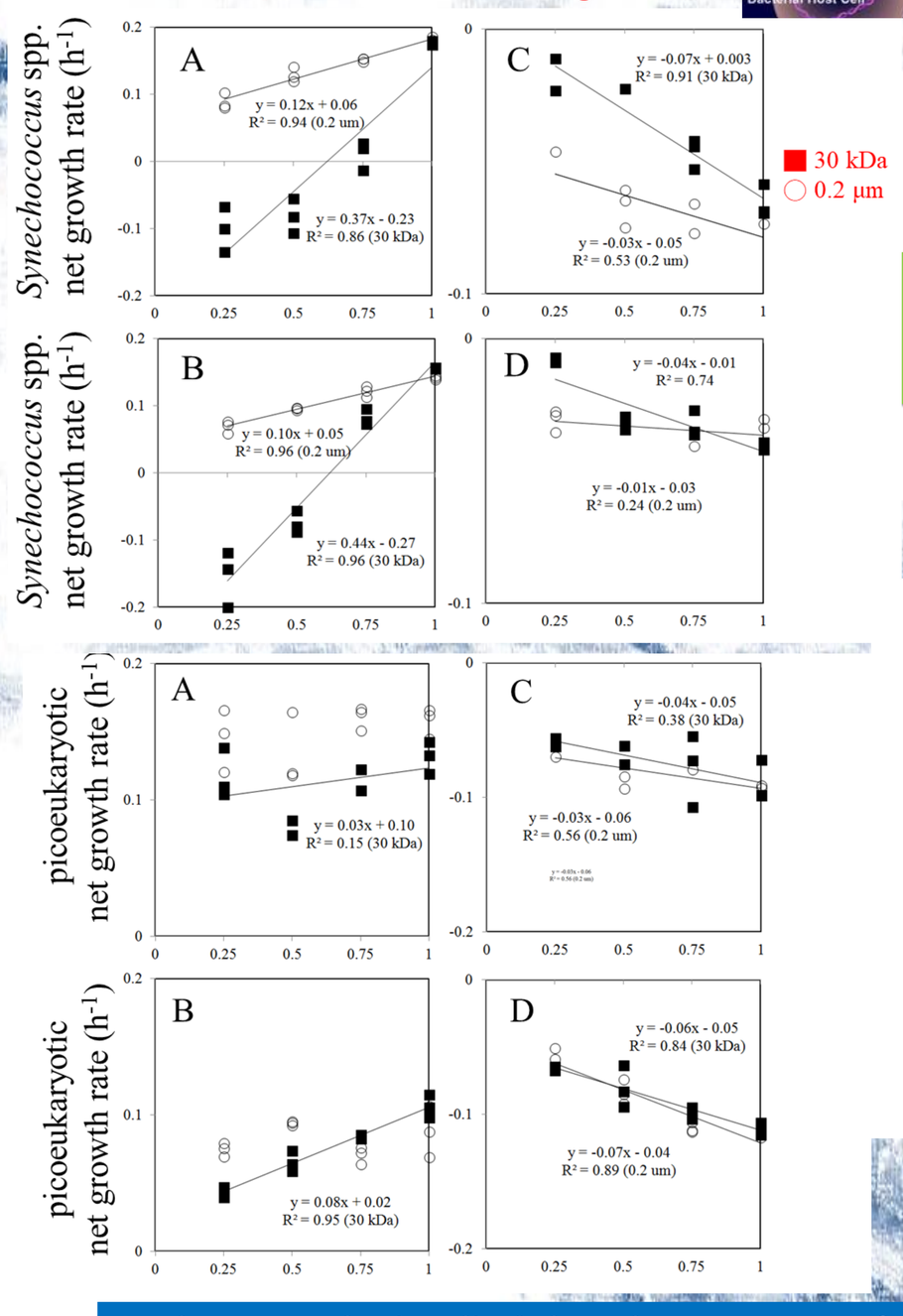
The fact that the diel variations in abundance were generally indicates likely an imbalance between growth and loss processes. Grazing and viral lysis are the two main factors responsible for picophytoplankton mortality in aquatic environments. Here, we focused on the diel variability of *Synechococcus* spp. and picoeukaryotes populations with a high frequency (3 h intervals) in subtropical western Pacific coastal waters during summer 2017. With that objective, we also assess the use of the modified dilution to estimate grazing and viral mortality of *Synechococcus* spp. and picoeukaryotes populations during daytime and nighttime.

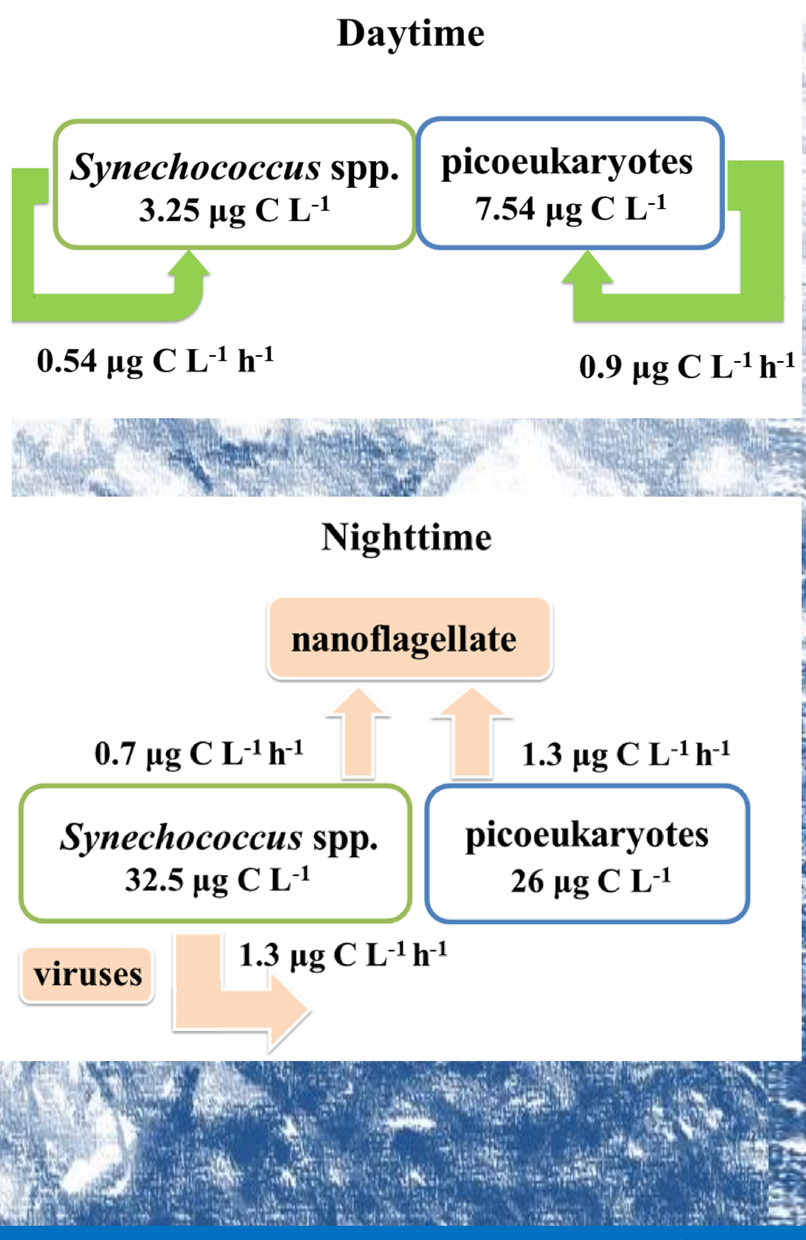


Materials and Methods

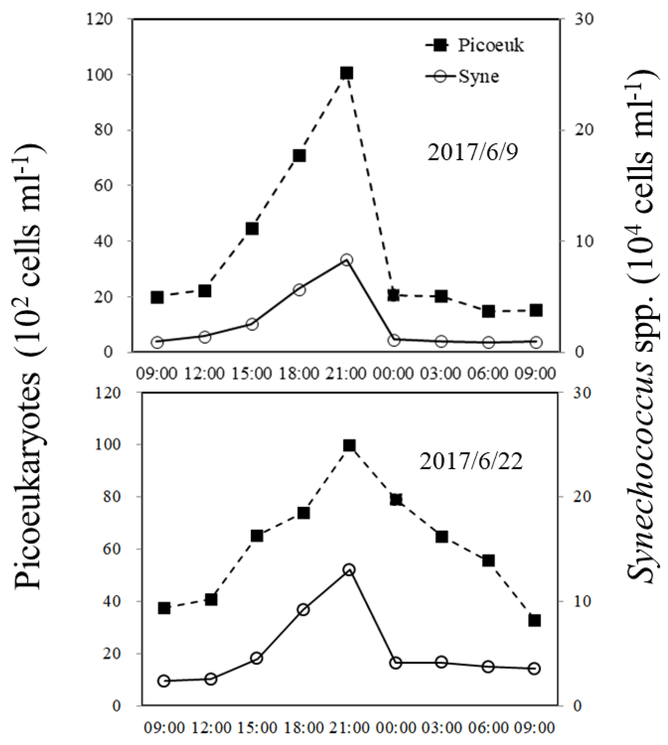








Results



1. These results implied that the presence of active viruses stimulates the growth of *Synechococcus* spp. and picoeukaryotes during daytime.

2. Our rough estimations suggest that viruses can exert significant effects on nutrient regeneration, enhancing daytime growth rates in picophytoplankton in subtropical western Pacific coastal waters.

3. Nanoflagellate grazing was responsible for all of picoeukaryotic mortality. In this study, we suggest that nanoflagellate grazing played a key role in controlling picoeukaryotic abundance at night.