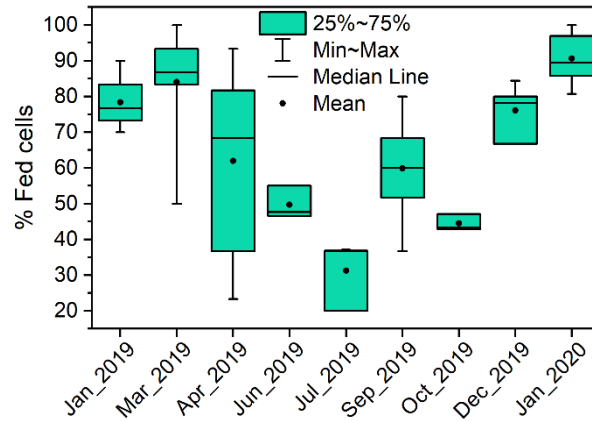
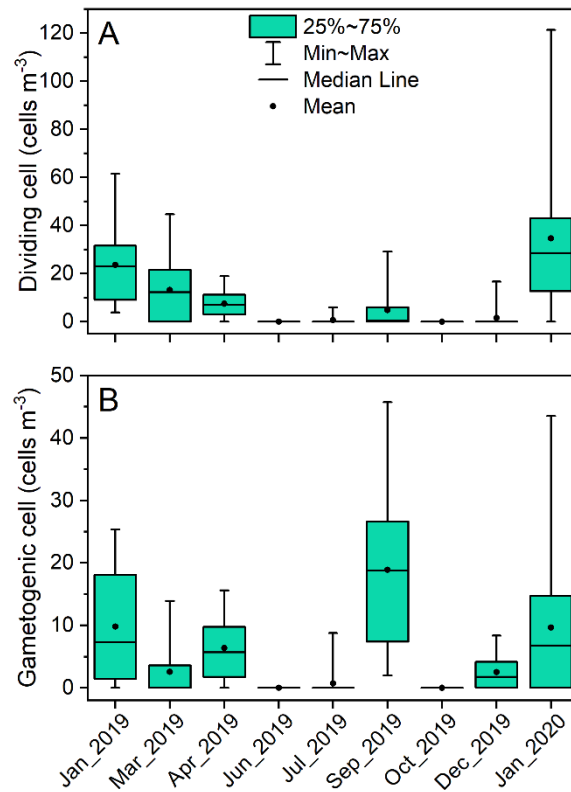


**Fig. S1** Daily precipitation, and wind vector during the sampling months. The direction and size of black arrows indicate the wind direction and speed, respectively. Orange rectangles indicate the sampling dates.



**Fig. S2** Variation of the proportion of fed *Noctiluca scintillans* cells (cells with prey in their vacuoles) in the sampling months.



**Fig. S3** Variation of the abundance of *N. scintillans* dividing cells (A) and gametogenic cells (B) in the sampling months.

**Table S1** Temperature (T, °C), salinity (S), chlorophyll *a* concentration (Chl *a*, µg L<sup>-1</sup>), dissolved inorganic nitrogen (DIN, µM), dissolved inorganic phosphorus (DIP, µM), and dissolved silicic acid (Si(OH)<sub>4</sub>-Si, µM) in nine sampling months. Values are mean ± SE.

Variable	Month								
	Jan. 2019	Mar. 2019	Apr. 2019	Jun. 2019	Jul. 2019	Sep. 2019	Oct. 2019	Dec. 2019	Jan. 2020
T	4.7±0.4	6.8±0.1	10.5±0.1	19.5±0.3	23.5±0.2	26.3±0.2	21.6±0.4	9.9±0.7	6.3±0.5
S	31.5±0.1	31.7±0.1	31.8±0.1	31.4±0.1	31.7±0.1	31.6±0.1	31.8±0.1	32.0±0.1	31.6±0.2
Chl <i>a</i>	1.2±0.1	1.4±0.1	1.3±0.1	3.5±0.6	1.9±0.1	2.2±0.5	1.4±0.2	1.1±0.1	1.7±0.1
DIN	14.7±1.8	6.6±1.0	7.8±1.1	7.1±1.4	6.7±1.4	9.9±2.0	16.1±3.1	8.1±1.7	12.3±2.7
DIP	0.6±0.0	0.4±0.0	0.6±0.0	0.4±0.0	0.6±0.0	0.6±0.0	0.8±0.1	0.5±0.0	0.7±0.0
Si(OH) <sub>4</sub> -Si	2.9±0.3	1.4±0.1	2.0±0.3	3.1±0.5	6.0±0.9	6.2±0.9	9.1±1.0	2.7±0.3	2.5±0.3

**Table S2** Spearman correlation coefficients among the abundance of vegetative cells, the proportion of dividing cells, the proportion of gametogenic cells, the abundance of gametes, and the proportion of fed cells. All the significant differences are in bold font.

	Vegetative cells	% Dividing cells	% Gametogenic cells	Gametes	% Fed cells
Vegetative cells	1				
% Dividing cells	<b>0.408**</b>	1			
% Gametogenic cells	<b>0.646**</b>	<b>0.363**</b>	1		
Gametes	<b>0.687**</b>	0.16	<b>0.433**</b>	1	
% Fed cells	<b>0.347**</b>	<b>0.492**</b>	<b>0.345**</b>	0.114	1

\* for  $P < 0.05$ , \*\* for  $P < 0.01$ .

### Abstract and diagrams of Tian (2017)

**Text S1. Abstract.** The grazing of *Noctiluca scintillans* impacted the structure of the plankton community. The grazing of *N. scintillans* in field water caused decreasing in the abundances of both diatoms and dinoflagellates. The decrease in chained diatoms was higher than the decrease in unchained diatoms. The abundance of *Thalassiosira rotula* and *Chaetoceros didymus* decreased by more than 50 %, with a higher abundance of dinoflagellates in the experimental group than in the control group. The ratio of dinoflagellate/diatom and unchained/chained diatoms in the experiment group were 43.13 % and 43.34 % higher than in the control group. The results indicated the chained diatoms are more likely to be grazed by *N. scintillans* and the grazing of *N. scintillans* will change the structure of the phytoplankton community in a short period.

## Diagrams

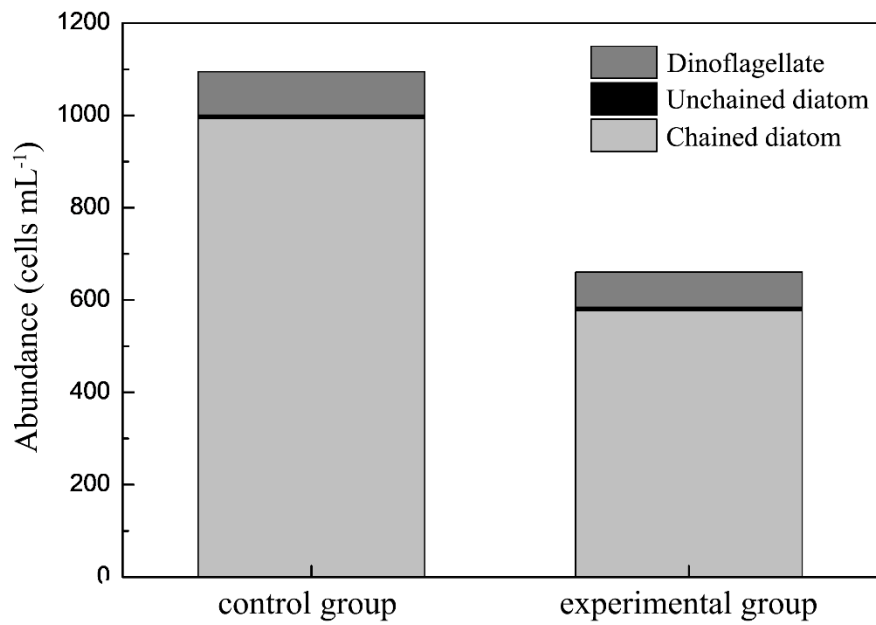


Fig. S4 Impact of *N. scintillans* on phytoplankton communities

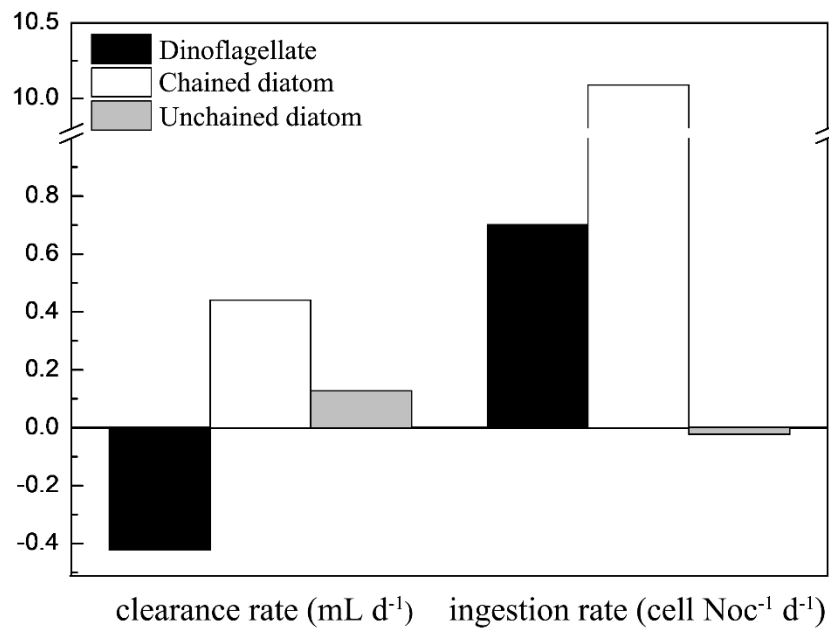


Fig. S5 Ingestion rate and clearance rate of *N. scintillans* on phytoplankton

### **Literature cited**

Tian D (2017) Population dynamic of *Noctiluca scintillans* and the ecological effects of grazing in Jiaozhou Bay. MSc dissertation, University of Chinese Academy of Sciences, Beijing (in Chinese with English abstract)