

研究论文

# 噬藻体PP对野生宿主——丝状蓝藻的吸附率、裂解周期及释放量的影响

姜红, 程凯, 肖慈琼, 张艳慧, 赵以军\*, 赵进

华中师范大学, 城市水环境生态学湖北省重点实验室, 武汉430079

收稿日期 2007-1-21 修回日期 2007-5-28 网络版发布日期: 2007-7-25

**摘要** 研究在日光光照条件下, 以自然水体中存在的丝状蓝藻作为噬藻体PP的野生宿主, 用离心法测定了噬藻体PP对野生宿主藻的吸附率, 用一步生长曲线法获得了噬藻体PP对野生宿主藻的裂解周期及释放量。结果表明: 噬藻体PP对野生宿主藻在60min时能够达到的吸附率为1.79%, 吸附系数为8.09%, 噬藻体PP感染野生宿主藻的潜伏期介于45~75min之间, 平均释放量为34.32PFU·Cell<sup>-1</sup>。上述结果一方面说明, 噬藻体PP感染野生宿主藻的吸附系数、潜伏期及释放量均远小于以实验室培养的鲍氏织线藻作为宿主所得到的数据; 另一方面也说明, 噬藻体PP具有较强的吸附和裂解野生宿主的能力, 这将有助于解释噬藻体PP在淡水富营养化水体中具有广泛分布的现象。

**关键词** [噬藻体](#); [丝状蓝藻](#); [吸附](#); [潜伏期](#)

分类号 [Q938](#)

## The relationship between cyanophage PP and its wild host (filamentous cyanobacteria) : adsorption rate, latent period and burst size

JIANG Hong, CHENG Kai, XIAO Ci-Qiong, ZHANG Yan-Hui, ZHAO Yi-Jun\*, ZHAO Jin

Central China Normal University, Hubei Key Lab of Urban Water Environmental Ecology, Wuhan 430079, China

**Abstract** Using wild filamentous cyanobacteria as host, the adsorption rate of cyanophage PP was studied by centrifugation method, the burst size and the latent period were studied by measuring the One-step growth curve of cyanophage PP. The adsorption rate was 1.79% in 60min, and a successful contact ratio was 8.09% correspondingly. The latent period was about 45-75min, and the average burst size was 34.32 PFU·Cell<sup>-1</sup>. All the results mentioned above were obviously lower than the results previously published for the laboratory host (Plectonema boryanum IU594). Besides, the high adsorption rate and short latent period, in the infection of the wild host, might contribute to the wide distribution of cyanophage PP in eutrophicated freshwater.

**Key words** [cyanophage](#) [filamentous](#) [cyanobacteria](#) [adsorption](#) [latent](#) [period](#)

DOI

通讯作者 赵以军 [sdjh1981@163.com](mailto:sdjh1981@163.com)

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(209KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

#### 服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中包含“噬藻体; 丝状蓝藻; 吸附; 潜伏期”的相关文章](#)
- ▶ [本文作者相关文章](#)

- [姜红](#)
- [程凯](#)
- [肖慈琼](#)
- [张艳慧](#)
- [赵以军](#)
- [赵进](#)