



### 亚致死剂量百草枯对七星瓢虫捕食及限域搜索行为的影响

徐锐<sup>1</sup>, 吴迪<sup>2</sup>, 杨松<sup>1</sup>, 刘霞<sup>2</sup>, 黄忆<sup>2</sup>, 周玖玄<sup>1</sup>, 况荣平<sup>1</sup>

- 1. 云南大学, 生命科学学院, 云南, 昆明, 650091;
- 2. 西南林学院, 保护生物学院, 云南, 昆明, 650224

### Sublethal effect of Paraquat on predation and area-restricted searching behavior the Ladybird Beetle *Coccinella septempunctata*(Coleoptera:Coccinellidae)

XU Rui<sup>1</sup>, WU Di<sup>2</sup>, YANG Song<sup>1</sup>, LIU Xia<sup>2</sup>, HUANG Yi<sup>2</sup>, ZHOU Jiu-xuan<sup>1</sup>, KUANG Rong-ping<sup>1</sup>

- 1. School of Life Science, Yunnan University, Kunming 650091, China;
- 2. Biology Protection Department, Southwest Forest College, Kunming 650224, China

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**摘要** 采用室内生物测定方法对七星瓢虫在亚致死剂量百草枯作用下的捕食和限域搜索行为进行了测定.毒力实验研究结果表明,田间常用百草枯体积比(20 mL/L)低于七星瓢虫成虫的LC<sub>50</sub>,对七星瓢虫幼虫的杀伤作用死亡率为95.7%.捕食速率测定结果显示,LC20剂量的百草枯会对七星瓢虫尤其是其幼虫的捕食速率产生显著影响,24 h七星瓢虫幼虫、雌成虫、雄成虫的捕食速率分别下降了31.32%,23.47%和25.60%.此外,百草枯对七星瓢虫的限域搜索行为也产生了显著影响,百草枯处理后七星瓢虫搜索速率降低,搜索范围缩小.

**关键词:** 百草枯 七星瓢虫 捕食速率 限域搜索 亚致死效应

**Abstract:** The impact of sublethal doses of Paraquat on predation and area-restricted searching behavior of the ladybird beetle *Coccinella septempunctata*, most commonly simply called the ladybird, was studied by infecting ladybirds with different concentration of Paraquat and watching their life history. The results showed that although the commonly used concentration(20 mL/L) of paraquat in field was lower than the LC<sub>50</sub> for female and male adults, it could cause 95.7% mortality to larvae. The predation speeds and area-restricted searching effects of both adults and larvae ladybirds were significantly affected by Paraquat.

**Key words:** Paraquat ladybird predation speed area-restricted searching sublethal

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通讯作者: 况荣平(1957- ), 男, 重庆人, 教授, 博士生导师, 主要从事昆虫学方面的研究.

作者简介: 徐锐(1979- ), 男, 辽宁人, 博士生, 主要从事昆虫生态学方面的研究.

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电话：0871-5033829(传真) 5031498 5031662 E-mail: yndxxb@ynu.edu.cn yndxxb@163.com