



长雄野生稻紫色柱头性状的遗传和基因定位研究

陈志伟¹, 邓伟², 李飞², 周家武³, 李静³, 徐鹏³, 邓先能³, 胡凤益³, 王荔², 陈善娜¹, 陶大云³

1. 云南大学生命科学学院, 云南昆明 650091;
2. 云南农业大学农学与生物技术学院, 云南昆明 650201;
3. 云南省农业科学院粮食作物研究所, 云南昆明 650205

A genetic study on the purple stigma genes and their locations in *Oryza longistaminata*

CHEN Zhi-wei¹, DENG Wei², LI Fei², ZHOU Jia-wu³, LI Jing³, XU Peng³, DENG Xian-neng³, HU Feng-yi³, WANG Li², CHEN Shan-na¹, TAO Da-yun³

1. School of Life Science, Yunnan University, Kunming 650091, China;
2. Agronomy and Biotechnology School, Yunnan Agricultural University, Kunming 650201, China;
3. Food Crops Research Institute, Yunnan Academy of Agricultural Sciences, Kunming 650205, China

- 摘要
- 参考文献
- 相关文章

全文: PDF (560 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 由花青素合成代谢形成的紫色柱头性状在包括长雄野生稻在内的AA基因组野生稻中较为普遍.为研究长雄野生稻中的紫色柱头性状,以具无色柱头的亚洲栽培稻品种RD23为轮回亲本与紫色柱头的长雄野生稻进行回交,经胚挽救和多代连续选择,获得3个柱头颜色有分离的BC₆F₁定位群体.这些群体中,柱头颜色均适合1(紫色):1(无色)的分离比例,表明紫色柱头性状受一对显性核基因控制.通过微卫星标记分析,将控制紫色柱头的基因定位在水稻第6染色体上,距标记RM₂₅₃,RM₁₁₁和RM₆₉₁₇分别为2.5,0cM和4.4cM.对比已发表的紫色柱头基因座位,它可能与来自亚洲栽培稻的Ps-4(t)基因等位,所以暂命名为Ps-4(t).

关键词: 紫色柱头 长雄野生稻 亚洲栽培稻 渗入 分子定位 Ps-4(t)

Abstract: The purple stigmas, which were caused by the metabolism of anthocyanins, were normal among all AA genome wild rice species including *Oryza longistaminata*. To study the purple stigmas in *O. longistaminata*, backcrossing was applied between the donor parent *O. longistaminata* with achromatic stigmas and recurrent parent RD23 with purple stigmas, and after embryo rescue and consecutive backcrossing three BC₆F₁ populations that showed character segregation in stigma color were finally got. In all BC₆F₁ populations, the segregation ratio of purple stigma to achromatic stigma was 1: 1, suggesting that the purple stigma was controlled by a pair of dominant allele. An analysis using microsatellite markers (SSR) demonstrated that the target gene located on the No.6 chromosome which was 2.5 cM, 0 cM and 4.4 cM from RM₂₅₃, RM₁₁₁ and RM₆₉₁₇, respectively. After comparing its position and effect to those published data, this gene might be allelic to Ps-4(t), which was identified from *O. sativa*.

Key words:

收稿日期: 2009-06-05;

通讯作者: 陶大云, taody@yaas.org.cn.

引用本文:

陈志伟, 邓伟, 李飞等. 长雄野生稻紫色柱头性状的遗传和基因定位研究[J]. 云南大学学报(自然科学版), 2010, 32(1): 103-107 .

\$author.xingMing_EN, \$author.xingMing_EN, \$author.xingMing_EN et al. A genetic study on the purple stigma genes and their locations in *Oryza longistaminata*[J]. , 2010, 32(1): 103-107 .

没有本文参考文献

没有找到本文相关文章

服务

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ E-mail Alert
- ▶ RSS

作者相关文章

- ▶ 陈志伟
- ▶ 邓伟
- ▶ 李飞
- ▶ 周家武
- ▶ 李静
- ▶ 徐鹏
- ▶ 邓先能
- ▶ 胡凤益
- ▶ 王荔
- ▶ 陈善娜
- ▶ 陶大云

版权所有 © 《云南大学学报(自然科学版)》编辑部

编辑出版：云南大学学报编辑部（昆明市翠湖北路2号，650091）

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