

## 研究报告

# 云南西双版纳桔小实蝇种群动态

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## 摘要

于1997年、2000年和2003年在云南西双版纳通过性诱剂诱捕对桔小实蝇种群动态进行了全年监测,并就气候因子及寄主种类对该种群变动的影响进行了系统分析.结果表明,桔小实蝇在西双版纳常年发生.当年11月至次年2月,桔小实蝇种群处于较低水平,3月以后种群数量逐渐上升,至6~7月形成一个种群增长高峰,此后至10月种群数量迅速下降.分析表明,影响桔小实蝇种群变化的重要因子是温度、降雨量和寄主种类.西双版纳各月均温位于桔小实蝇适温范围内,但12~2月的月平均最低温度低于桔小实蝇的适温范围,对桔小实蝇种群数量有一定抑制作用.降雨量是影响桔小实蝇种群数量变动的另一重要因子.月降雨量低于50 mm以下对桔小实蝇种群不利,而100~200 mm的月降雨量有助于桔小实蝇种群的增长.月降雨量大于250 mm以上将导致桔小实蝇种群数量下降.6~7月强降雨过程被认为是桔小实蝇在该时期种群数量下降的主要原因.芒果、番石榴、桃、梨、柑桔、龙眼和荔枝是桔小实蝇在该地区的主要寄主水果.其中,芒果和龙眼是当地桔小实蝇最喜好的寄主水果,其种植面积、挂果期和产量对桔小实蝇种群数量变动影响较大,被认为是影响该地区桔小实蝇种群变动的又一主要因素.

关键词 [桔小实蝇,种群动态,西双版纳](#)

分类号

## Population dynamics of *Bactrocera dorsalis* (Diptera:Tephritidae) in Xishuang banna of Southern Yunnan

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### Abstract

In the study,an all year round monitoring through lure traps in 1997,2000 and 2003 was conducted on the population dynamics of oriental fruit fly,*Bactrocera dorsalis* (Diptera:Tephritidae) in Xishuangbanna of Southern Yunnan,and the factors in relation with its population fluctuation,including temperature,rainfall,and host species were analyzed.The fruit fly occurred year-round in Xishuangbanna,with a low population level from November to February,and increased steadily from March to July or August.An increasing peak appeared in July or August,depending on the rainfall amount in that year.Afterwards,the fly population declined markedly until to October. Temperature,rainfall,and host fruits were supposed to be the major factors affecting the population fluctuation.The monthly average temperature in Xishuangbanna was in the ranges suitable for the development and reproduction of the fly,but the monthly average minimum temperature from December to February appeared to be lower than the suitable temperature, which was suggested to be responsible for the low populations in the winter months.Rainfall was another essential factor affecting population fluctuation. The population was depressed when the monthly rainfall amount was lower than 50 mm,but increased when the amount ranged between 100 and 200 mm.Under conditions the monthly rainfall amount was higher than 250 mm,the fruit fly population was reduced markedly,which explained the decreasing population in July or August when the heavy rain occurred. Mango,orange,pear,longan,and peach were the main host species of the fly,among which,mango and longan were most preferred by the fly. Therefore, their planted area,fruiting period and productivity exerted essential effects on the fly population fluctuation,and

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regarded as another major factor affecting the fly population in this area.

**Key words** [Bactrocera dorsalis](#) [Population dynamics](#) [Xishuangbanna](#)

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