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绿盲蝽分龄与其形态发育指标的相关性

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Correlation between Larval Instar and Morphological Development Indexes of *Apolygus lucorum*

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摘要 参考文献 相关文章

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摘要 昆虫龄数和龄期的确定是害虫预测预报以及制定其科学治理策略的重要依据，为了掌握绿盲蝽虫龄与其生长发育的关系，通过测
盲蝽3项形态指标进行了测量，以期探明其形态发育特征，选择最佳的分龄指标。研究结果表明：依据形态指标的增长规律，绿盲蝽
程划分为速增期、缓慢期和停滞期 3 个时期；相邻龄期间头宽变幅的重叠度最低，变异系数小于体长和体宽；绿盲蝽形态发育特征不
和Crosby法则。对所测3项形态指标和龄数进行线性和指数回归分析，结果表明指数模型决定系数均较小，拟合程度较差；3项指标
线性拟合的决定系数均较大，其中以绿盲蝽头壳宽值与龄数的二次、三次线性决定系数最大（R^2=0.961），直线决定系数为R^2=0.
和体宽的直线决定系数均为R^2=0.940。因此，可以根据绿盲蝽头宽来识别其龄数，为准确识别绿盲蝽虫龄提供依据。

关键词： 绿盲蝽 形态发育 体长 体宽 头宽 Dyar法则 Crosby法则 决定系数

Abstract： Determination of the larval instar and its dustadiumtion is an important foundation for insect pest
forecasting and management strategies. To clarify the relationship between the instar and morphological deve
of *Apolygus lucorum* (Hemiptera), we measured three morphological indexes (body length, body width, and hea
by observations under a stereo microscope. The morphological development process could be divided into thr
according to the morphological growth of *A. lucorum*: a rapid growth period, a slow growth period, and a stagr
period. The range of head width between neighboring instars showed the lowest degree of overlap, and its va
coefficient was lower than those of body length and body width. The growth dynamics of morphological indexe
lucorum were not consistent with Dyar and Crosby rules. Regression analyses of the three morphological varia
against the instar showed that the exponential coefficient of determination was lower than the linear coefficie
determination. The quadratic and cubic coefficient of determination of head width against the instar showed th
maximum value (R^2=0.961), followed by the linear coefficient of determination (R^2=0.942). The linear coefficien
length and width against the instar was 0.940. The results of this study showed that the head capsule width
lucorum provides the best index to divide instars, and will be useful to accurately identify instars in research o
pest.

Keywords： *Apolygus lucorum* Meyer-Dür morphological development body length body width head width
rule Crosby rule coefficient of determination

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