

Some Aspects of the Hormonal Control of Quantitative and Qualitative Displays of Photoperiodism in Silkworm, *Bombyx mori* L.

Guliyeva HOKUMA

Baku State University, Faculty of Zoology of Invertebrates, 370148, Z.Khalilov st.
23, AZERBAIJAN REPUBLIC, e-mail: hokumabio@yahoo.com

ABSTRACT

The questions related to the participation of corpora allata in qualitative and quantitative manifestation of photoperiodism in monovoltine silkworm have been discussed. The characteristics of photoperiodical reaction have been studied: it is determined that qualitative reactions are of intermediate type; quantitative–distinct, but not coordinated with qualitative reactions. It is discovered that resection of corpora allata results in decrease of egg numbers, but does not change the character of the quantitative photoperiodical reaction. Whereas, allatectomy of pupae does not prevent the induction of embryonic diapause, but changes the curve of the qualitative photoperiodical reaction and distracts the dynamics of the quantitative photoperiodical reaction. This indicates the relation between both manifestations of photoperiodism and it points to the fact that formation of diapause is based on the quantitative reactions.

Key words: Hormonal control, photoperiodic reactions, *Bombyx mori* L.

INTRODUCTION

At the moment it is already clear that photoperiod is the main factor that causes the diapause not only of polyvoltinous, but also of monovoltinous types, where the reaction is specifically varied. Photoperiodism has meaning in the regulation of the seasonal cycles of insects (Saunders *et al.*, 2002). The influence of photoperiod is especially clearly disclosed during the regulation of start and termination of diapause, which is a qualitative photoperiodical reaction. But in the 1970' s it was proved that not only diapause, but many other physiological functions of insects are controlled