

Simultaneous recording of gas exchange cyclicality, body movements and heartbeats by infrared-optical method in pupae of *Leptinotarsa decemlineata* (Say)

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By means of infrared optical method the microcycles of gas exchange, body rhythmic movements and heartbeats were simultaneously recorded in the pupae of Colorado potato beetle, *Leptinotarsa decemlineata* Say. All the mentioned events are well recognisable on the infrared-optical recordings. Very regular microcycles of gas exchange are reflected on the optical recording as clear spikes due to weak movements in body tissues suggestively due to passive suction ventilation. On the same recording the signals of heartbeats with common rate of 50-70 min⁻¹ are superimposed on the slower peaks due to body rhythmic movements. The infrared optical method allows to elucidate the interrelations between gas exchange, body movements and heartbeats in pupal stage.

Key words: *Leptinotarsa decemlineata*, gas exchange, body movements, heartbeats.

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