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Developmental Noise in Cabbage Aphid, *Brevicoryne brassicae*, (Homoptera: Aphididae) Reared on both Cabbage and Radish

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ABSTRACT

Several stress conditions imposed by genetical and environmental conditions may cause deviations from bilateral symmetrical characters. For herbivore species such as aphids, different host plants may act as stressful environmental factors. Therefore, we studied the different host plant effects on symmetrical expression of morphological characters of cabbage aphid, *Brevicoryne brassicae* Linnaeus. Individuals were maintained on *Brassica oleracea* Linnaeus (Cabbage) for a long time and then transferred to *Raphanus sativus* Linnaeus (Radish). For all measured characters, cabbage aphids showed higher fluctuating asymmetry (FA) on radish which is a novel host for cabbage reared aphids although the two host plants belong to the same family. In contrast to FA, within-environmental variation (CV) for all measured characters were higher on cabbage. There was no consistent pattern betwẽen host plant effect and developmental noise indicators.

Key words: Aphid, developmental noise, fluctuating asymmetry

INTRODUCTION

The development of the two sides of bilaterally symmetrical organisms is determined by identical genetic and external environmental factors, therefore the developmental stability of an organism is reflected in its ability to produce an ideal form under particular conditions (Leary and Allendorf, 1989; Zakharov et al., 1991). Deviations from bilaterall symmetry is called developmental noise. Developmental noise, as measured by fluctuating asymmetry (FA) and within-environmental variation (CV_e) received attention as a potential indicator of stress in a variety of organisms and within individual morphological variability may provide a valuable early indicator of environmental and genetic stress and therefore developmental noise has become