Genetic Diversity in Relation to Host Specificity of Aphid Parasitoids (Hymenoptera: Aphidiidae)

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1 Introduction

The aphidiid parasitoids of aphids display quite determinable patterns in their host range. Several groups have been defined in this respect [Starý 1970, 1981; Starý & Rejmánek 1981].

Only one group includes strictly monophagous species, whereas the others cover the more or less oligophagous species. In the oligophagous parasitoids, host species alternation is, or is presumed to be, a common phenomenon. Alternation may be either more or less occasional owing to the presence or absence of the particular host aphid species in a habitat, or may also be classified as obligatory if seasonal diapause occurs in some host species [Starý 1970].

The current approach to the host species alternation in parasitoids has been derived from the species identity. However, the viewpoint of genetic diversity in the target populations has never been involved. The object of our present contribution is to classify the host species alternation from new points of view ensuing from the use of electrophoretic methods (analysis of isoesterases) in the host specificity studies on aphid parasitoids.

2 Material and methods

The following material of aphids and parasitoids was used: Acyrthosiphon pisum (Harris 1776) originating from Trifolium pratense (field) and reared on the horse bean, Faba vulgaris in the laboratory. Brevicoryne brassicae (Linnaeus 1758) collected on rape (field).