

III Simpósio Fauna e Flora das Ilhas Atlânticas

III Symposium Fauna and Flora of the Atlantic Islands



21 - 25 de Setembro de 1998
September 21 - 25, 1998



Departamento de Biologia
UNIVERSIDADE DOS AÇORES

III Simpósio Fauna e Flora das Ilhas Atlânticas
III Symposium Fauna and Flora of the Atlantic Islands

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ENZYMATIC COMPARISON OF THE AZOREAN AND MADEIRAN POPULATIONS OF *MYTHIMNA UNIPUNCTA* (HAWORTH) (LEPIDOPTERA: NOCTUIDAE)VIEIRA, V.¹, J. TAVARES¹ & J.N. MCNEIL²¹Dep. de Biologia, Univ. dos Açores, PT-9502 Ponta Delgada (Codex), PORTUGAL²Dép. de Biologie, Univ. Laval, Québec, P.Q. G1K 7P4, CANADA

The true armyworm, *Mythimna unipuncta* (Haworth) (Lepidoptera: Noctuidae), is the most important pest of grass pastures in the Azores archipelago. Three major processes may shape the genetic structure of these pest populations: founder effects, migration, human interferences in habitat (eg. application of insecticides). The extent of genetic variation in pest populations may have important implications for their control. Electrophoretic studies provided estimates of genetic variation in many Lepidoptera, but only one was published concerning esterase and tetrazolium oxidase enzymes of the azorean armyworm populations (Santa Maria, S. Miguel and S. Jorge islands).

In the present paper, the genetic structure of *M. unipuncta* population was studied using polyacrylamide gel electrophoresis. Five enzyme systems (aldehyde oxidase, esterase, phosphoglucomutase, phosphoglucose isomerase, malic enzyme) were examined in a S. Miguel population (Azores) and compared with that from Madeira island.

The results indicate that the populations are not significantly different but we cannot differentiate between the three following hypotheses: migrations occur between these Macaronesian islands, migrations occur from a common continental source (Europe, Africa), or populations from different islands are isolated after an insufficient period of time to have notably diverged.

Macaronesian armyworm populations, both from an economic and from an evolutionary point of view, deserve more extensive analyses of genetic variability; in particular, these analyses will allow to determine the geographic origin of Azorean armyworms and to estimate the age of the colonization.