

Pyrrolidonyl and Pyridyl Alkaloids in *Lymantria dispar*

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The occurrence and metabolism of nicotine and related *N*-containing compounds in body fluids of the gipsy moth were addressed. Thin layer chromatographic studies clearly showed the simultaneous presence of GABA and 2-pyrrolidone but not of GABamide in the larval haemolymph and osmeterial secretion of *Lymantria dispar* as well as in the corresponding body fluids of the saturniids, *Saturnia pavonia* and *Attacus atlas*. Furthermore, feeding and injection experiments using alkylated precursors and combined gas chromatography/mass spectrometry gave evidence of the transformation of 2-pyrrolidone to nicotine and of nicotinic acid to nicotinamide in caterpillars of *L. dispar*. Based on these results, on the earlier described variation of the secondary-compound patterns of *L. dispar* during its development, and on literature data, metabolic pathways for the hitherto detected pyridyl and pyrrolidonyl alkaloids in Lymantriidae (and possibly Saturniidae) are proposed.

Key words: Chemical Defense, Lymantriidae, Saturniidae, Secondary Metabolites