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Molecular Cloning of the Cuticle Protein Genes from the Chinese Oak Silkworm, *Antheraea pernyi,* and Japanese Oak Silkworm, *Antheraea yamamai*

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We have cloned cDNAs encoding the cuticle protein from the Chinese oak silkworm, *Antheraea pernyi* and the Japanese oak silkworm, *A. yamamai.* In this paper, the exon/intron structure and characterization of two cuticle protein cDNAs are described. The *A. pernyi* cuticle protein cDNA sequence contains an open reading frame of 360 bp encoding 120 amino acid residues. The predicted molecular mass for *A. pernyi* cuticle protein was approximately 14 kDa (ApCP14). ApCP14 contained a type-specific consensus sequence identifiable in other insect cuticle proteins and was intron-less gene. The deduced amino acid sequence of the *A. pernyi* cuticle protein cDNA is most similar to *Bombyx mori* LCP18. In addition, the *A. yamamai* cuticle protein gene spans 1107 bp and consisted of one intron and two exons coding for 118 amino acid residues. The predicted molecular mass for *A. yamamai* cuticle protein was approximately 13 kDa (AyCP13). AyCP13 also contained a type-specific consensus sequence identifiable in other insect cuticle proteins and the deduced amino acid sequence of the AyCP13 cDNA is most similar to *A. pernyi* ApCP14 (82% protein sequence identity). Northern blot analysis revealed that both ApCP14 and AyCP13 showed epidermis-specific expression. Southern blot analysis of the genomic DNA suggested ApCP14 and AyCP13 cuticle proteins were a single gene, respectively.