

Abstract:

Larval development in *Glossina* species occurs in utero with the mature third instar larva being deposited after a developmental period of 7 days. 2. In this study, the patterns of cuticular protein synthesis during larval development were analysed by two-dimensional gel electrophoresis. 3. From the results, four types of cuticle proteins were identified: those specific to larval, pupal and adult cuticles, and others common to all the stages. 4. Few cuticular proteins were synthesized between the first and second larval instars. By the third larval instar (two days before larviposition), a large number of proteins ($M_r \leq 30$ kDa) were induced. These proteins persisted up to the brown pupal stage and showed a rapid decline thereafter. Most of the proteins with molecular weights $M_r \leq 30$ kDa were undetectable at apolysis (5 days after larviposition). 5. By day 15 of the pupal stage, the number of cuticle proteins was very small. The protein profile during the pupal stages remained relatively constant. This was probably due to the fact that the pupal cuticle does not provide any protection since it is itself enclosed at all times within the protective puparium