

Genetic Comparison among the Three Species based on Three mtDNA Gene Sequences in Genus *Protaetia* (Coleoptera: Cetoniidae)

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The larvae of the genus *Protaetia* (Coleoptera: Cetoniidae) is called 'gum-baeng-yi' and are traditionally known as an efficacious medicinal insect to human liver disease (Park *et al.*, 1994 and Kang *et al.*, 2000). In Korea, six species has been recorded in the genus *Protaetia*, but only three species among them, *P. brevitarsis seulensis*, *P. orientalis submarmorea* and *P. mandschuriensis*, are common. Their larvae are very similar morphologically but insufficiently studied taxonomically. Therefore, the third instar larvae of the three species are described and diagnosed with their characteristics (Kim *et al.*, 2003). In this study, the genetic comparison of these inter species is accomplished by the analysis of mitochondrial gene Cytochrome Oxidase I (CO I), Cytochrome Oxidase II (CO II) and 16S rRNA partial sequencing. As a result of the comparison based on the CO I gene, the genetic dissimilarity between *P. orientalis submarmorea* and *P. mandschuriensis* was 2.1%, and *P. brevitarsis seulensis* and *P. orientalis submarmorea* was 9.5%, and *P. brevitarsis seulensis* and *P. mandschuriensis* was 9.0% in a 423bp. In the CO II gene, the genetic dissimilarity between *P. orientalis submarmorea* and *P. mandschuriensis* was 2.7%, and *P. brevitarsis seulensis* and *P. orientalis submarmorea* was 9.5%, and *P. brevitarsis seulensis* and *P. mandschuriensis* was 8.3% in a 556bp. In the 16S rRNA gene, the genetic dissimilarity between *P. orientalis submarmorea* and *P. mandschuriensis* was 1.0%, and *P. brevitarsis seulensis* and *P. orientalis submarmorea* was 2.5%, and *P. brevitarsis seulensis* and *P. mandschuriensis* was 2.5% in a 479bp.