

# Mitochondrial 16S rRNA Sequence-Based Phylogenetic Relationship among the Bumblebees (Hymenoptera: Apidae) Common in Korea

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The genetic divergence and phylogenetic relationships were analyzed from ten species of bumblebees (Bombini, Apidae), collected from several regions of Korea and *B. terrestris* imported from several foreign countries for pollination using a portion of mitochondrial 16S ribosomal RNA. The length of the gene ranged from 496bp to 508bp and sequence divergence ranged from 1.7% to 16.4% among 11 species. There was no intraspecific variation except for *B. terrestris* (two haplotypes among three individuals). According to the phylogenetic tree derived from parsimony and maximum-likelihood analysis, *B. terrestris* was clustered with *B. hypocrita sapproensis* with 47% and 53% bootstrap values. These two species made a subgroup with *B. ignitus* showing 100% and 97% bootstrap values. *B. consobrinus wittenburgi* and *B. koreanus* clustered in a subgroup with strong value of confidence (100% and 99% bootstrap values). *B. ardens ardens* and *B. modeatus* also clustered together with 99% and 95% of bootstrap values. With the increasing number of bumblebee, more robust bumblebee phylogeny will be obtained.