

**F811** · Analysis of Genetic Variance for Body Weight in Korean Natural Population of *Drosophila melanogaster*.

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We estimated genetic variance components for body weight in *D.melanogaster*. Ninety second chromosomes were extracted from the Suwon natural population. Analyses of heritability and genetic variance were performed by partial diallele cross. The correlation coefficient ( $r$ ) of body weight between female and male was estimated to be 0.9969. The heritability ( $H^2$ ) was estimated to be 0.317 for female and 0.308 for male and the additive genetic variance ( $\hat{\sigma}_a^2$ ) was  $0.00136 \pm 0.00096$  and  $0.00127 \pm 0.00047$  and the dominance variance ( $\hat{\sigma}_d^2$ ) was  $-0.00014 \pm 0.00031$  and  $-0.00052 \pm 0.00026$ , respectively. The analysis of these data indicates that, in this population, mutation-selection balance is the mechanism for the maintenance of genetic variability of body weight.

**F812** Sequence Analysis of the *Bombyx* Fibroin Gene Promoters

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Silk proteins spun from the posterior silk gland are composed of two types of proteins, fibroin and sericin. The fibroin is made of two polypeptides, H- and L-chain. Each chain is produced by different genes. It has been known that H-chain and L-chain are expressed simultaneously when they are needed. The promoter region of these two genes (H- and L-chain) were cloned from *Bombyx mori*, *Bombyx mandarina*, three mutants ( $Nd$ ,  $Nd-t$ ,  $Nd^H$ ) and named pFLP, pFHP, pNd, pNdt and pNdh, respectively. We sequenced 1,030 nucleotides from *Fib-L* of *Bombyx mori*, *Bombyx mandarina* and three mutants ( $Nd$ ,  $Nd-t$ ,  $Nd^H$ ). It has been found that 14 bases in *B. mandarina*, 14 bases in  $Nd$ , 16 bases in  $Nd-t$  and 18 bases in  $Nd^H$  showed different sequences from the wild, *B. mori*. It implies that mutation ratio marks 1.36% in *Bombyx mandarina*, 1.36% in  $Nd$ , 1.55% in  $Nd-t$ , 1.65% in  $Nd^H$ . As a result, we identified that the major promoter regions including TATA box and CAAT sequence was conservative.