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JAROS PHINCHONGSAKULDIT : MITOTIC KARYOTYPE OF THE
BACTROCERA DORSALIS (DIPTERA: TEPHRIIDAE) COMPLEX IN
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Mitotic karyotypes of ten species of the *Bactrocera dorsalis* complex were studied for the amount and distribution of constitutive heterochromatin using Hoechst 33258 and Giemsa staining. The species studied were *B. propinqua*, *B. carambolae*, *B. melastomatos*, and seven other species, I-O, that have not been identified to species level. All individuals were collected as larvae from infested fruits from natural populations in several parts of Thailand. The pattern of constitutive heterochromatin observed shows species specific differences in the sex chromosomes, especially the X chromosome, and/or the autosomes. The karyotypes of *B. propinqua*, species I and species O are classified with *B. dorsalis* and *B. irvingiae* as Group I because they have a small amount of heterochromatin in the autosomes, and a medium sized metacentric X chromosome with one entirely heterochromatic arm and one nearly entirely euchromatic arm. Species J and K are classified with *B. verbascifoliae* as Group III. They have a subtelocentric X chromosome with a tiny amount of constitutive heterochromatin in the centromeric and short arm regions. Their autosomes show blocks of pericentric heterochromatin. *Bactrocera carambolae*, species L, M and N are classified with *B. pyrifoliae* and species E as Group IV. They have H- and G-bands in the short arm and distal end of the long arm of their acrocentric X chromosomes, making their karyotypes very distinctive. They have conspicuous blocks of pericentric heterochromatin in all of their autosomes. The karyotype of *B. melastomatos* could not be classified as any of the groups as it has a remarkable pericentric heterochromatin band in all autosomes and a unique small metacentric X chromosome. The results of this study indicate that analysis of the amount and pattern of constitutive heterochromatin on mitotic chromosomes of fruit fly species can be used in association with ecological and morphological data for more accurate and efficient identification of closely related species of the large complex of *B. dorsalis*.