

Creation and development of premium products from wild silkmoth fibers

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Abstract

Survey and collection of economic important wild silkmoths in the northeast of Thailand were undertaken. The tasar silkworm (*Antheraea* spp.) was found in Khon Kaen, while fagara silkworm (*Attacus atlas*) in Khon Kaen, Sakol Nakon and Kalasin, but avocado hairy caterpillar (*Cricula trilineata*) in Sri Saket. Preliminary silkyarn production technique was studied and developed by using cocoon shell of 3 wild silkmoths boiled in alkaline water 10 minutes. This technique was suitable for producing these yarns. Tasar cocoon shell was the most easiest reeling. The second and third positions of reeling ability were avocado hairy caterpillar and fagara silk cocoons, respectively. Dyeing wild silkyarns with natural colors and mordants of Padauk (*Pterocarpus indicus*) bark, Mulberry fruit, Bastard Teak (*Butea monosperma*) flower, Asian pigeonwings (*Clitoria ternatea*) flower + Lemon juice, Red Sorrel (*Hibiscus sabdariffa*) flower + Aluminium Sulfate and Mary gold flower + Aluminium Sulfate were carried out. Different wild silkyarns showed different color, although dyed with the same natural of color. The silkyarns were also developed to fabrics in 3 types i.e. plain wild silkfabrics 100%, natural dyed wild silkyarns combined with mulberry silkyarn and natural dyed wild silkyarns combined with natural fiber (cotton). The fabrics were evaluated for the preference. The result showed that plain fabric woven with Tasar silkyarns was the most preference. Avocado hairy caterpillar silkyarn and fagara silkyarn were alternatively preferred from evaluators, respectively. Among wild silkyarns combined with mulberry silkyarn, it was indicated that tasar silkyarn was the most preference. Fagara silk and avocado hairy caterpillar silk were also alternatively preferred by evaluators. For the wild silkfabrics combined between each natural dyed wild silk and cotton fiber, avocado hairy caterpillar silk was the most preference, while tasar silk and fagara silk were preferred in the same level.