

Danai Pianjing 2007: Comparative Morphological Study between the Individual and Congregated Cultivation at the Axillar Skin of Siamese Crocodiles (*Crocodylus siamensis* Schneider). Master of Science (Veterinary Anatomy), Major Field: Veterinary Anatomy, Department of Anatomy. Thesis Advisor: Associate Professor Narong Chungsamarnyart, Ph.D. 111 pages.

The dermis of the individual and congregated cultivation of the Siamese Crocodiles (*Crocodylus siamensis* Schneider) were comparative histological studied. The dorsal axillar skin of 10 crocodiles of each cultivation were collected and fixed with Bouin's fixative. Each of the crocodile's skin blocks were serial sectioned 3 micron thick for one hundred sections. Each of ten randomized serial sections were stained by H&E, Masson's trichrome and Weigert methods. The volumes of collagen, muscular and elastic fibers of dermis in scalar and interscalar areas were estimated by Weibel's surface-to-volume estimation and Olympus Micro Image Analysis (OMI 4.5). The volume of collagen fibers in the scalar and interscalar dermis areas of the individual cultivation crocodiles was statistically less and more than in the congregated cultivation, respectively. The collagen fibers in scalar dermis of both cultivations were statistically much more than in the interscalar area. The volume of muscular fibers in the scalar dermis area of both cultivation crocodiles were not statistical significant difference and in the scalar dermis area was statistically less than in that of interscalar area. While the muscular fibers in the interscalar dermis area of the congregated cultivation crocodiles were statistically much more and much larger bundle than in that of the individual cultivation crocodiles. The volume of the elastic fibers in both scalar and interscalar dermis areas of the congregated cultivation crocodiles was statistical much more than in that of the individual cultivation crocodiles. The volumes of elastic fibers in the scalar dermis area of both cultivations were statistically much more than in the interscalar area.

This study indicated that the interscalar dermis of the congregated cultivation crocodiles which they are freely movements had much more muscular and elastic fibers than the individual cultivation crocodiles. It might be indicated that the crocodile's leather of congregated cultivation might be stronger than that of individual cultivation.

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Thesis Advisor's signature