

Anatomical, Light and Scanning Electron Microscopical Study of Ostrich (*Struthio camelus*) Integument

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Abstract : The current study dealt with the gross and microscopic anatomy of the integument of male ostrich in addition to the histological features of different areas of skin by light and SEM. The ostrich skin is characterized by prominent feather follicles and bristles. The number of feather follicles was determined per cm² in different regions. The integument of ostrich had many modifications which appeared as callosities and scales, nail and toe pads. They were sternal, pubic and Achilles tendon callosities. The vacuolated epidermal cells were seen mainly in the skin of legs and to a lesser extent in the skin of back and Achilles areas. Higher lipogenic potential was expressed by epidermis from glabrous areas of ostrich skin. The dermal papillae were found in the skin of feathered area of neck and back and this was not a common finding in bird's skin which may give resistance against shearing forces in these regions of ostrich skin. The thickness of the keratin layer of ostrich varied, being thick and characteristically loose in the skin at legs, very thin and wavy at neck, while at Achilles skin area, scale and toe pad were thick and more compact, with the thickest very dense and wavy keratin layer at the nail. The dermis consisted of superficial layer of dense irregular connective tissue characterized by presence of many vacuoles of different sizes just under the basal lamina of the epithelium of epidermis and deep layer of dense regular connective tissue. This result suggested presence of fat droplets in this layer which may be to overcome the lack of good barrier of cutaneous water loss in epidermis.

Keywords : ostrich, light microscopy, scanning electron microscopy, integument, skin modifications

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