

Peculiarities of deep dorsal thigh muscles in moa (Aves, Dinornithiformes)

Andrei V. Zinoviev

Department of Biology, Tver State University, Tver, Russia

Email: m000258@tversu.ru

The so-called deep dorsal thigh muscles of birds underwent a number of modifications over the course of evolution from an archosaurian ancestor. Of five muscles, comprising the group, only *m. iliotrochantericus caudalis* is generally well developed. Other weaker muscles either assist the caudal iliotrochanteric muscle in inward rotation of the femur (*m. iliotrochantericus cranialis* and *m. i. medius*), or have stronger synergists in abduction (*m. iliofemoralis externus*) and outward rotation (*m. iliofemoralis internus*) of femur. The trend to better development of the last four muscles is displayed by large cursorial flightless birds, such as ratites. *M. iliotrochantericus caudalis* in Ostrich, Emu, Cassowary and Rhea is bulky and multipinnate. Moa have surpassed modern ratites in the development of deep dorsal thigh muscles. *M. iliofemoralis externus* of these birds was multipinnate at the origin; *mm. iliotrochanterici cranialis et medius*, although parallel-fibered, had larger bodies. Generally vestigial or altogether absent in modern birds, *m. iliotrochantericus internus* of the Moa was not only considerably larger; its point of insertion shifted from the medial surface of the femoral shaft to its cranial surface between the greater trochanter and *caput femoris*. None of the recent or extinct birds (including *Aepyornis*), to my knowledge, show a similar shift.

