Made available by Hasselt University Library in https://documentserver.uhasselt.be

Features of osteology in stylopodium and zeugopodium of Didelphis marsupialis Non Peer-reviewed author version

NARAIN, Faridi; VAN ZWIETEN, Koos Jaap; GERVOIS, Pascal; LIPPENS, Peter; OP 'T EIJNDE, Bert; VANDERSTEEN, Marjan; COLLA, Paul; PALMERS, Yvan; MEWIS, Alex & Lamur, Kenneth (2009) Features of osteology in stylopodium and zeugopodium of Didelphis marsupialis. In: Anatomische Gesellschaft - Nederlandse Anatomen Vereniging, Joint Meeting. p. 62-62..

Handle: http://hdl.handle.net/1942/9450

Features of osteology in stylopodium and zeugopodium of Didelphis marsupialis

F.H.M. Narain,¹ <u>K.J. van Zwieten</u>,² P. Gervois,² P.L. Lippens,² B. Op 't Eijnde,² M. Vandersteen,² P. Colla,² Y. Palmers,² A. Mewis³ and K.S. Lamur¹

Department of Anatomy, Bio-Medical Research Institute, University of Suriname, Paramaribo, Suriname¹; Department of Anatomy, BioMed Institute, University of Hasselt, Diepenbeek, Belgium²; Clinical Laboratory, Virga Jesse Hospital, Hasselt, Belgium³

Introduction: Research in experimental (EAE) animals makes use of foot and ankle extensor muscles *tibialis anterior* and *extensor digitorum longus* to evaluate exercise therapy in chronic neuropathies¹. Because locomotion in EAE rats and other rodents shows less similarity to human gait than locomotion in non-human primates and predecessors like opossum rats, it may be useful to take into account the functional morphology of opossums as well ².

Backgrounds: In spite of the abundance of functional and morphological data on opossum hindlimb osteology, some osteological characters of the *Didelphis marsupialis* hindlimb remained hitherto unsatisfactory described ³. This is especially so, if observed from standard anatomical views.

Material and methods: Standard anatomical pictures of bony specimens of *Didelphis marsupialis* hindlimb stylopodium and zeugopodium were obtained by means of macrophotography. Line drawings of these photographs were then used to describe in detail functionally relevant features of the bones.

Results and conclusions: *Tuberositas tibiae, collum fibulae* and *spatium interosseum cruris* appear to be reliable landmarks to describe non-sagittal plane movements of the opossum hindlimb in stance and sway. Recognition of such osteological features in both rodent and primate locomotion is therefore suggested.

1.Broekmans, T., G. Alders, M. Roelandts, P. Feys, R. Meesen, C. Charlier, E. Van Hoof, P. Stinissen, and B. Op 't Eijnde. 2007. *Multiple Sclerosis.* 13:S131.

2.Van Zwieten, K. J., S. Hauglustaine, and P. L. Lippens. 1997. *European Journal of Morphology.* 35, 1:47-48.

3.Szalay, F.S. 1994. Evolutionary history of the marsupials and an analysis of osteological characters. Cambridge University Press, New York.