



Morphometric differentiation between two murid rodents, *Praomys tullbergi* (Thomas, 1894) and *Praomys rostratus* (Miller, 1900), in West Africa

BERTIN K. AKPATOU^{1,2,3,6}, VIOLAINE NICOLAS⁴, DEBRA PIRES⁵, ELIEZER N'GORAN¹ & MARC COLYN³

¹Université de Cocody, UFR Bio-Sciences, Laboratoire de Zoologie et Biologie Animale, 22 B.P. 582 Abidjan22, République de Côte d'Ivoire

²Centre Suisse de Recherches Scientifiques en Côte d'Ivoire, 01 B.P. 1303 Abidjan 01, Km 17, route de Dabou. Abidjan, République de Côte d'Ivoire

³UMR 6553 CNRS, Université de Rennes1, Station Biologique de Paimpont, 35380 Paimpont, France

⁴Muséum National d'Histoire Naturelle, Département de Systématique et Evolution, USM 601, UMR 5202, Laboratoire Mammifères et Oiseaux, 55 rue Buffon, 75005 Paris, France

⁵Department of Ecology and Evolutionary Biology, Center for Tropical Research, Institute of Environment, University of California – Los Angeles CA, USA

⁶Corresponding author : Centre Suisse de Recherches Scientifiques en Côte d'Ivoire, 01 B.P. 1303 Abidjan 01, Km 17, route de Dabou. Abidjan, République de Côte d'Ivoire. E-mail: bertinakpatou@yahoo.fr

Abstract

Morphometric differentiation between the two species of the genus *Praomys* Thomas (1915) inhabiting West Africa was investigated using univariate and multivariate statistics on external, cranial and dental measurements. One hundred and seventy six adult specimens (78 *P. tullbergi* and 98 *P. rostratus*) from fifteen localities throughout the Upper Guinean rainforest were analyzed. All specimens had been previously identified to species level by molecular analyses (16S rRNA and/or cytochrome *b* gene sequencing). Sexual dimorphism was observed in both species, but was more significant in *P. rostratus* than in *P. tullbergi*. Body weight was significantly lower in *P. tullbergi* than in *P. rostratus*. Moreover, males of *P. tullbergi* had a significantly smaller head and body length than males of *P. rostratus*. Specimens of *P. tullbergi* of both sexes were on average smaller than males of *P. rostratus* regarding all cranial and dental measurements, and smaller than females of *P. rostratus* with regard to most measurements. However, none of the cranial or dental measurements treated in our study could be used alone to separate *P. rostratus* and *P. tullbergi*, because of considerable overlap in the ranges of each variable. A good discrimination between the two species was obtained by means of craniometrical multivariate statistics, several rostrum measurements being significantly lower in *P. tullbergi* than in *P. rostratus*. Discrepancies between our results and former published studies are hypothesized to be due to differences between the variables used and/or the geographical areas covered.

Key words: Muridae, Systematics, Morphometry, Guinean Lowland forests, Rodentia

Introduction

The systematics of the soft-furred rats in the genus *Praomys* Thomas (1915) has been controversial for a long time. The genus was first downgraded by Ellerman (1941) to a subgenus of *Mastomys*, and later re-elevated to genus by Davis (1962). *Mastomys*, *Hylomyscus* and *Myomyscus* were then considered to be subgenera of *Praomys* (Misonne 1969; Honacki *et al.* 1982; Happold 1987), while Rosevear (1969), Robbins *et al.* (1980), Carleton & Musser (1984) and Musser & Carleton (1993; 2005) regarded *Mastomys*, *Hylomyscus* and *Myomyscus* (referring to *Myomyscus*) as genera. The latter position is currently accepted as a general consensus, and the phylogenetic relationships between these genera were investigated by Lecompte *et al.* (2002a,b; 2005).