



## Morphological distinction of species of *Thrichomys* (Rodentia: Echimyidae) through ontogeny of cranial and dental characters

ANTONIO CARLOS DA S. A. NEVES<sup>1,2</sup> & LEILA MARIA PESSÔA<sup>1</sup>

<sup>1</sup>Departamento de Zoologia, Instituto de Biologia, Universidade Federal do Rio de Janeiro, CCS, room A1-121, Ilha do Fundão, 21949-900, Rio de Janeiro, RJ, Brazil

<sup>2</sup>Corresponding author. E-mail: antonio3@ufrj.br

### Abstract

Recent cytogenetic and molecular studies changed the monotypic status of the genus *Thrichomys*, recognizing at least four species. In this study we analyzed cranial and dental characters throughout ontogeny to investigate morphological differences between three species from Brazil: *Thrichomys laurentius*, from Caruaru, Pernambuco State; *Thrichomys inermis*, from Morro do Chapéu, Bahia state; and *Thrichomys pachyurus*, from Barão de Melgaço, Mato Grosso state. The samples were chosen by proximity to type localities and availability in collections. We described age classes for each species, grouped in four categories: juvenile, sub-adult, adult and senile. The unique pattern of wear of cheekteeth described in literature to the genus was made for a population from Bodocó, Pernambuco and was different of the patterns described in this study. The three patterns of tooth wear also differed from each other. In the analysis of the skull, three of the 14 characters observed did not vary during the ontogeny of each species or among the species examined. Four characters observed varied during the ontogeny of the three species examined, but in a similar way. The eight other cranial characters analyzed varied during ontogeny of the species and differently in each species. Among these eight characters, four were useful to distinction of species of *Thrichomys*. These characters were stable during the ontogeny of each species but were different among the three species: the shape of the interpremaxilar foramen, the shape of the incisive foramen, the shape of hamular processes, and the shape of the angle of mesopterygoid fossa. The description of the ontogenetic series of these species showed marked differences between them, corroborating morphologically the distinction of three different species.

**Key words:** morphological differentiation, age groups, *Thrichomys laurentius*, *Thrichomys inermis*, *Thrichomys pachyurus*, Neotropic, Brazil, ontogeny

### Introduction

The genus *Thrichomys* Trouessart, 1880 has, currently, four recognized species: *Thrichomys apereoides* (Lund, 1839), *T. inermis* (Pictet, 1843), *T. pachyurus* (Wagner 1845), and *T. laurentius* Thomas, 1904 (Pessôa *et al.*, in press). *Thrichomys* is characterized externally by a soft fur, without spiny hair, and a thickly haired tail (Ellerman, 1940) which distinguishes it from other cursorial genera within Echimyidae rodents. Dorsally, the pelage is ash gray in color while the venter is whitish, but is not strongly demarcated from lateral coloration. The specimens show three white spots in the head, two around the eyes and one at the base of ear (Moojen, 1952; Pessôa *et al.*, in press). In all species the rostrum is short and wide. A conspicuous interpremaxilar foramen is always present. The incisive foramen is peculiar. It is wide, and, unlike other Echimyidae genera, the septum generally is incomplete, with two parts: a pre-maxilar, broad and long, sometimes exceeding half of the total size of foramen, and a maxilar, very small. The vomer in all species is always visible in ventral view. The mesopterygoid fossa is "V" or "U"-shaped. The bulla varies in size from large to small and if is well or slightly inflated among species (Pessôa *et al.*, in press). The dental formula to all species is I 1/1, C 0/0, P 1/1, M 3/3, total 20 teeth. Premolar and third molar are smaller than first and second molars. The occlusal surface of the cheekteeth shows two or three short and shallow transverse flexi opening at labial face and one hypoflexus opening at lingual surface (Carvalho & Salles, 2004).