NOTAS SOBRE
MAMÍFEROS SUDAMERICANOS

Sociedad Argentina para el Estudio de los Mamíferos

Notas sobre Mamíferos Sudamericanos 2025, vol.7
DOI:https://doi.org/10.31687/SaremNMS25.1095
Versión on-line ISSN 2618-4788

NOTAS SOBRE
MAMÍFEROS
SUDAMERICANOS

An overview of caudal autotomy in rodents, with new records for Cricetidae and Heteromyidae

Celeste María López (1,2*) and Manfredo Alejandro Turcios-Casco (2,3)

(1) Laboratório de Mastozoologia, Programa de Pós-Graduação em Zoologia, Universidade Estadual de Santa Cruz, Bahia, Brasil. (2) Asociación para la Sostenibilidad e Investigación Científica en Honduras (ASICH), Francisco Morazán, Honduras (3). Laboratório de Etnoconservação e Áreas Protegidas, Programa de Pós-Graduação em Zoologia, Universidade Estadual de Santa Cruz, Bahia, Brasil. [*correspondence: cmlopez.ppgzoo@uesc.br]

Citación: López, C. M., & M. A. Turcios-Casco. 2025. An overview of caudal autotomy in rodents, with new records for Cricetidae and Heteromyidae. Notas sobre Mamíferos Sudamericanos 7:e25.1095.

ABSTRACT
Caudal autotomy is a phenomenon mainly known in reptiles (e.g., Lepidosauria), but cases in mammals are scarce. Therefore, a review on caudal autotomy in rodents is presented with records of four new cases for the species: cloud forest rice rat *Handleyomys saturatior* (Merriam, 1901), Desmarest's spiny pocket mouse *Heteromys desmarestianus* (Gray, 1868), the Vesper rat, *Nyctomys sumichrasti* (Saussure, 1860), and the big-eared climbing rat, *Ototylomys phyllotis* Merriam, 1901. A total of 55 rodent species have been documented with caudal autotomy, with 72.7% being false autotomy and 27.3% true autotomy, this phenomenon is typically considered advantageous for escaping predators. It is essential to prioritize research on this defensive trait because it may contribute significantly to their adaptability and success in diverse habitats.
Keywords: *Handleyomys*, Honduras, *Nyctomys*, *Ototylomys*, tail autotomy

RESUMEN –Descripción general de la autotomía caudal en roedores, con nuevos registros para Cricetidae y Heteromyidae
La autotomía caudal es un fenómeno conocido principalmente en reptiles (por ejemplo, Lepidosauria), pero los casos en mamíferos son escasos. Por lo tanto, se presenta una revisión sobre la autotomía caudal en roedores y se registran cuatro nuevos casos para las especies: la rata de arroz del bosque nublado, *Handleyomys saturatior* (Merriam, 1901); el ratón espinoso de Desmarest, *Heteromys desmarestianus* (Gray, 1868); la Rata de Vesper, *Nyctomys sumichrasti* (Saussure, 1860); y el ratón trepador de orejas grandes, *Ototylomys phyllotis* Merriam, 1901. Se han documentado un total de 55 especies de roedores con autotomía caudal, siendo el 72,7% autotomía falsa y el 27,3% autotomía verdadera. Es esencial investigar este rasgo defensivo, ya que puede contribuir significativamente a su adaptabilidad y éxito en diversos hábitats.
Palabras clave: autodesprendimiento de la cola, *Handleyomys*, Honduras, *Nyctomys*, *Ototylomys*

Tail autotomy is a phenomenon in which certain vertebrates can voluntarily detach their tail as a defensive strategy against predators (Arnold 1987; Ducey et al. 1993; Emberts et al. 2019). This feature is particularly prominent in some reptiles such as amphisbaenians (Mascarenhas-Junior et al. 2021), many species of lizards (Sauria),

Recibido el 9 de mayo de 2024. Aceptado el 19 de noviembre de 2024. Editor asociado Pablo Jayat.

and some snakes (Ophidia) (Bellairs & Bryant 1985; Gilbert et al. 2013; Costa et al. 2014; Crnobrnja-Isailovic et al. 2016; Michelangeli et al. 2020). Additionally, it has been observed in amphibians, including salamanders (Caudata) (Itgen & Sessions 2016; Payette et al. 2019; Gildemeister et al. 2017), frogs, and toads (anurans) (Ding et al. 2014).

Lesser known in mammals, tail autotomy has been confirmed in rodents; however, unlike lizards, the lost portion of the tail cannot regenerate (Shargal et al. 1999; McKee & Adler 2002; Seifert et al. 2012). In general, this plausible self-defense strategy may work only once, and individuals must permanently face any decrease in fitness associated with tail loss (McKee & Adler 2002). In rodents, two types of autotomy are distinguished: false tail autotomy, involving only the loss of tail skin due to tissue desiccation, and true autotomy, encompassing the loss of the entire tail, including the caudal vertebrae (Dubost & Gasc 1987).

This paper provides a brief review of the phenomenon of autotomy known as tail autotomy in rodents. Here is presented evidence for the first time of tail autotomy in species such as *Handleyomys saturatior*, *Heteromys desmarestianus*, *Nyctomys sumichrasti,* and *Ototylomys phyllotis,* and the knowledge of this phenomenon in the genus *Peromyscus* Gloger, 1841, is expanded. Additionally, possible causes behind the partial absence of tails in field rodent populations in Honduras are explored.

During the sampling process, Sherman traps (dimensions: 23.5 x 9.5 x 9 cm) were strategically distributed along linear transects on trails, with a 20-meter separation between each trap and positioned five meters perpendicular to the trail edge. These traps employed two types of bait to attract rodents: a mixture of oats, peanut butter, and vanilla essence, and another combination of canned tuna with oats. Sampling was conducted in various regions of Honduras, hence for each new record, a brief description of the locality and coordinates in decimal format according to WGS 84 is provided. All specimens were handled following the protocols for the study of wild mammals established by Sikes et al. (2016). Additionally, this research was conducted under the permit issued by the National Institute of Forest Conservation, (ICF) through resolution DE-MP-055-2023.

Measurements and identification of captured individuals were conducted following Villalobos-Chávez et al. (2016), employing a Vernier Truper digital caliper (CALDI-6MO, 14388) with a precision of 0.01 mm to obtain the following measurements: Body Length (BL), Tail Length (TaL), Total Length (TL), Hindfoot Length (HF), and Ear Length (E).

A comprehensive literature search was conducted across academic resources such as Google Scholar (https://scholar.google.com/), JSTOR (https://www.jstor.org/), and Web of Science (https://www.webofscience.com/wos/), using keywords as "tail autotomy," "caudal autotomy," "tail loss," "defensive behavior," along with the terms "rodents" and "Rodentia." For each retrieved record, the scientific name based on its latest taxonomic revision was updated using the Integrated Taxonomic Information System (ITIS 2024) and the American Society of Mammalogists (ASM 2024). Additionally, the type of autotomy exhibited by the species being true or false was identified following the classification by Dubost & Gasc (1987) and described in Table 1.

Autotomy is interpreted as a defensive behavior documented in at least 55 species of rodents (Table 1). It is most prevalent in the family Muridae, accounting for 30.9%, followed by the family Cricetidae at 21.8%. In neotropical species, tail autotomy has been observed in *Calomys hummelincki* (Husson, 1960) (Leon-Alvarado 2024), *Heteromys australis* Thomas, 1901 (Medina-Barón et al. 2018), *Heteromys pictus* (Thomas, 1893) (Shargal et al. 1999), *Heteromys* sp. nov. (Sánchez-Giraldo & Delgado-V. 2009), *Lagostomus crassus*; Pearson 1948 (Shargal et al. 1999), *Neacomys tenuipes* O. Thomas, 1900 (Sánchez-Giraldo & Delgado-V. 2009), *Proechimys semispinosus* (Tomes, 1860) (McKee & Adler 2002), *Proechimys guairae* Thomas, 1901 (Weir 1973), *Pattonomys semivillosus* (I. Geoffroyi, 1838) (Leon-Alvarado 2024), *Peromyscus boylii* (Baird, 1855) (Sumner & Collins 1918), *Peromyscus floridanus* (Chapman, 1889) (Layne 1972), *Phyllotis darwini* (Waterhouse, 1837) and *Phyllotis xanthopygus* (Waterhouse, 1837) (Jaksic & Simonetti 1987), and *Sigmodon hispidus* Say & Ord, 1825 (Dunaway & Kaye 1961; Hosotani et al. 2021). Here, additional data on *Peromyscus* spp. along with initial data for *Ha. saturatior*, *He. desmarestianus*, *N. sumichrasti*, and *O. phyllotis* is presented.

In La Tigra National Park, located in the department of Francisco Morazán (latitude 14.2099; longitude -87.1153, 1873 m a. s. l.) in central Honduras, the following small mammal species were captured: *Peromyscus* spp. (N=34), *He. desmarestianus* (N=4), *O. phyllotis* (N=2), *Sigmodon* sp. Say & Ord, 1825 (N=1), *Ha. saturatior* (N=5), and the didelphid *Marmosa mexicana* Merriam, 1897 (N=1). Among these, a reproductive female of *Ha. saturatior* was recorded with morphometric measurements as follows: BL: 127 mm, TaL: 145 mm, TL: 272 mm, HF: 24.5 mm, E: 20 mm. After taking the morphometric measurements, while the individual was being held for a photograph, it made a sudden, forceful movement in an attempt to escape. During this struggle, the individual shed 75 mm of tail skin (Fig. 1 A). The shedding occurred quickly as the animal twisted and shook its body violently. This act of autotomy resulted in a significant loss of skin but did not involve the bony structure of the tail, indicating a case of false autotomy. Slight bleeding was observed at the base of the detached area, lasting approximately two minutes before stopping completely. The animal showed evident signs of stress after the incident, but handling was immediately stopped following the skin loss to prevent further harm.

In the municipality of La Venta, Francisco Morazán (latitude 13.4516; longitude -87.1920, 640 m a. s. l.) the following rodent species were captured: *Heteromys salvini* (Thomas, 1893) (N=4), *N. sumichrasti* (N=1), and *O. phyllotis* (N=1). During handling, it was observed that the *He. salvini* individuals had incomplete tails from the moment they were captured. The tails were visibly shortened, but the exact cause of this condition could not be determined, as the animals were already in this state when found, suggesting that the event may have occurred previously. Alternatively, the reproductive male *N. sumichrasti* attempted to escape during handling for external morphometric measurements, repeatedly biting and jumping between branches as photographs were taken. During these escape attempts, the individual lost approximately 76% of the skin on its tail (Fig. 1B, b), which corresponds to 89 mm in length, considering the tail originally measured 116 mm (TaL). The skin detachment occurred suddenly while the animal was making abrupt movements. Slight bleeding was observed on the remaining part of the tail, which was almost imperceptible and quickly stopped. The morphometric measurements of the individual were as follows: BL:113.2 mm, TL: 229.2 mm, HF: 21.5 mm, E: 15.5 mm. After the autotomy, handling was ceased to prevent further stress on the animal, which showed agitation but exhibited no immediate signs of impaired mobility (Fig. 1B, b).

In the semi-urban area of Carboneras, located in the municipality of Sabanagrande within the Francisco Morazán department (latitude 13.7929; longitude -87.2487, 972 m a. s. l.), only two *O. phyllotis* individuals were captured in a stream during the dry season. The first individual was a reproductive adult male, with the following morphometric measurements: BL: 158.34 mm, TaL: 129.66 mm, TL: 288 mm, HF: 26.93 mm, E: 18 mm. During tail measurement manipulation, it experienced a false autotomy where a small section of tail skin, approximately 27.55 mm, detached with minimal bleeding. Further manipulations for other morphometric measurements resulted in the loss of an additional 27 mm of tail skin, followed by a final detachment of 39 mm near its base, leaving a residual section of 36.11 mm in length with more noticeable bleeding. The second individual, also an adult male, had the following morphometric measurements: BL: 171.05 mm, TaL: 131.85 mm, TL: 302.9 mm, HF: 26.38 mm, E: 19.71 mm. Upon completing the measurement collection, the individual attempted to escape by making sudden movements and 12 mm of its tail skin left attached, losing 91% of it (Fig. 1C, c). No bleeding was observed at the detachment site.

In the Uyuca Biological Reserve, in Francisco Morazán (latitude 14.02422; longitude -87.06983, 1981 m a. s. l.) the following rodents were captured: *Peromyscus* sp. (N=31), *N. sumichrasti* (N=1), and four unidentified species. An adult male individual of the genus *Peromyscus* sp. with morphometric measurements of: BL: 130 mm, TaL: 123.5 mm, TL: 253.5, HF: 25.4 mm, E: 22 mm, was observed with laceration. During handling, this individual immediately lost 12 mm of skin from the terminal portion of the tail (Fig. 1D, d). Additionally, another adult male *Peromyscus* sp. in the Montecillos Biological Reserve in the department of Comayagua (latitude 14.4665; longitude -87.8596, 1898 m a. s. l.) was captured. This specimen had the following external morphometric measurements: BL: 96 mm, Tal 97.5 mm, HF: 22 mm, E: 19.5 mm. During the handling process for taking these measurements, the animal experienced a detachment of approximately 35 mm of skin from the terminal portion of the tail. The detachment occurred in response to the animal's defensive movements as it attempted to escape while being handled. It was observed that the skin slipped from the tip of the tail toward the base, leaving an exposed bony section without dermal coverage. The exposed area showed slight bleeding, which quickly ceased.

At the same site, during the process of taking morphometric measurements, an adult female of *He. desmarestianus* exhibited aggressive defensive behavior. To free itself, it tried to bite and shook vigorously, resulting in its being held only by the tail. At that moment, the individual initiated a rapid rotation, which resulted in the loss of approximately 34.7 mm of skin from the terminal portion of its tail, thereby facilitating its escape. This specimen had the following morphometric measurements: BL:

123.35 mm, TaL: 149.36 mm, HF: 34.13 mm, E: 16.40 mm. Other species captured at this site included: *Peromyscus* spp. (N=37), *Reithrodontomys* Giglioli, 1875 (N=15), *Scotinomys teguina* (Alston, 1877) (N=9), and *He. desmarestianus* (N=2).

Caudal autotomy in rodents is a defensive phenomenon that has been described across several families, but its mechanisms and consequences are still not fully understood. This study documents cases of false autotomy in rodents from Honduras, a behavior that has been rarely reported in the Neotropical region and that may provide valuable insights into the natural history and defensive strategies of rodents.

A significant finding of this study is the case of *O. phyllotis,* where false autotomy was observed on multiple occasions in the same individual, which has not been previously reported in the literature. This suggests that, although rodents do not regenerate their tails as some reptiles do (Maiorana 1977; Salvador et al. 1995), they may experience repeated autotomy, which could increase their chances of survival in multiple predator encounters. This event highlights the importance of field studies in understanding defensive strategies in mammals.

Regarding the relationship between autotomy and reproductive condition, based on individuals captured on this study, 66.7% of false autotomy cases occurred in reproductively active individuals. This finding suggests that the phenomenon could be associated with a period of increased vulnerability to predators, when individuals are investing more energy in reproduction (Shargal et al. 1999). In Honduras, this defensive behavior is confirmed for Heteromyidae and Cricetidae families based on the results presented here, representing 20% and 80% of the cases in the country, respectively. In terms of types of autotomy, 72.7% of the rodents studied exhibit false autotomy, that is, partial detachment of their tail skin, while only 27.3% show true autotomy (i.e., tail loss from the vertebra), as seen in species from the spiny rat, Echimyidae family (46.7% of species with true autotomy) (Shargal et al. 1999; Seifert et al. 2012).

It is important to mention that individuals of *He*. *salvini* in La Venta had an incomplete tail. This phenomenon could thus explain the presence of individuals of this genus with incomplete tails found in the field, as also noted by McKee & Adler (2002) in populations of *P. semispinosus* in Panama, and in the genus *Acomys* I. Geoffroy, 1938 in Africa (Seifert et al. 2012). Similarly, Wester et al. (2018) describes that in the species *Acomys subspinosus* (Waterhouse, 1838), after false autotomy, the tail dries up and disappears over time. However, it has also been reported that *Acomys* can chew and eventually detach the stump (Shargal et al. 1999).

Despite the inability to regenerate the tail in rodents, significant disadvantages in terms of mobility, ability to run, climb, or other related aspects have not been identified (Shargal et al. 1999; Wester et al. 2018). Tail autotomy showed no impairments in their mobility in individuals observed in the field during the surveys described herein, speculating that the tail skin of this species is adapted to detach in extreme situations without seriously compromising the physical integrity of the animal. Furthermore, the presence of adults without part of their tail in the wild may indicate that tail loss may confer survival benefits against predator attacks.

In conclusion, caudal autotomy is present in at least 55 rodent species, representing a potentially effective strategy for increasing their survival. Although rodents are an abundant and frequently studied group, it is essential to prioritize research into their behavior and natural history. This defensive behavior may be present in more species than those mentioned here and could be one of the key evolutionary advantages that contribute to the adaptability and success of these small mammals. Further study of this strategy could provide new insights into the evolutionary mechanisms that have facilitated their success across a wide variety of habitats and ecological contexts.

ACKNOWLEDGEMENTS

Our gratitude to ASICH (Diego Mazier, Javier Zúniga, Alejandro Velásquez, Lizbeth Bautista, and The Big Bat Theory research group), Daniel Alejandro Mirón Turcios, the Centro de Rescate y Colección Privada El Ocotal, and the municipality of Sabanagrande for their assistance during the surveys in La Venta and Carboneras. To Jorge Palma and AMITIGRA for their assistance in La Tigra National Park; to Eric Pierre Van den Berghe, Ángel Ramos, and EAP Zamorano for their support in the Uyuca Biological Reserve; to ASIDE for field funding at the Montecillos Biological Reserve, as well as to David Meza, Yazmin Montes, Wilmer Vasquez and William Gonzales for their support on the surveys. To Pablo Jayat, Amellia Chemisquy, Masahiro Iwasa, Martín R. Alvarez, and two anonymous reviewers that improved this manuscript. This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001, and the becas solidarias program of the Secretaría de Desarrollo Social (SEDESOL) – Honduras.

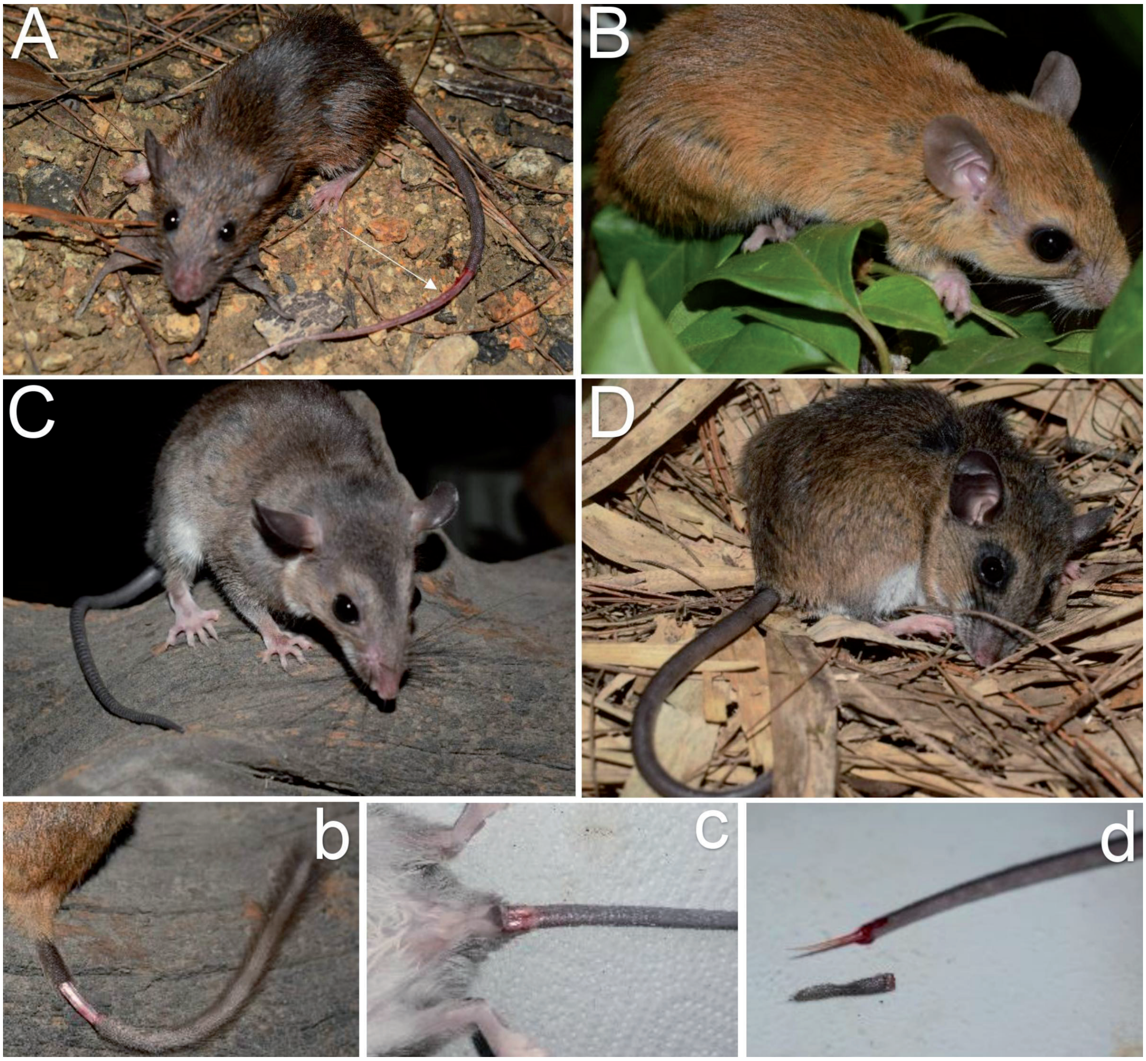

Figure 1. Examples of caudal autotomy in rodents recorded in Honduras. A) *Handleyomys saturatior* from La Tigra National Park, Francisco Morazán; B) *Nyctomys sumichrasti* from La Venta, Francisco Morazán (central). Note that the skin was beginning to be separated from the base of the tail (b); C) *Ototylomys phyllotis* from Sabanagrande, Francisco Morazán. Individuals presented multiple autotomy (c); D) *Permyscus* sp. captured in Uyuca Biological Reserve that presented false autotomy (d).

Table 1. Review of rodent species documented for exhibiting tail autotomy using Shargal et al. (1999) as a basis. References of the authors reporting autotomy on each species are presented.

*** Type of tail autotomy based on Dubost & Gasc (1987)**

Family	Species	References	*
Chinchillidae	*Lagostomus crassus* Thomas, 1910	Summarized in Shargal et al. (1999)	FALSE
Cricetidae	*Calomys hummelincki* (Husson, 1960)	León-Alvarado (2024)[1]	FALSE
Cricetidae	*Handleyomys rostratus* (merriam, 1901)	This study	FALSE
Cricetidae	*Neacomys tenuipes* O. Thomas, 1900	Sánchez-Giraldo & Delgado-V (2009)	FALSE
Cricetidae	*Neotoma lepida* (Thomas, 1893)	Shargal et al. (1999)	TRUE
Cricetidae	*Nyctomys sumichrasti* (Saussure, 1860)	This study	FALSE
Cricetidae	*Ototylomys phyllotis* Merriam, 1901	This study	FALSE
Cricetidae	*Peromyscus boylii* (Baird, 1855)	Summarized in Shargal et al. (1999)	FALSE
Cricetidae	*Peromyscus* spp.	This study	FALSE
Cricetidae	*Phyllotis darwini* (Waterhouse, 1837)	Jaksic & Simonetti (1987)	FALSE
Cricetidae	*Phyllotis xanthopygus* (Waterhouse, 1837)	Jaksic & Simonetti (1987)	FALSE
Cricetidae	*Podomys floridanus* (Chapman, 1889)	Summarized in Shargal et al. (1999)	FALSE
Cricetidae	*Sigmodon hispidus* Say & Ord, 1825	Summarized in Shargal et al. (1999); Hosotani et al. (2021)	FALSE
Echimyidae	*Mesocapromys melanurus* (Poey, 1865)	Summarized in Shargal et al. (1999)	TRUE
Echimyidae	*Mesocapromys nanus* (G. M. Allen, 1917)	Summarized in Shargal et al. (1999)	TRUE
Echimyidae	*Mysateles prehensilis* (Poeppig, 1824)	Summarized in Shargal et al. (1999)	FALSE
Echimyidae	*Pattonomys semivillosus* (I. Geoffroy, 1838)	León-Alvarado (2024)	TRUE
Echimyidae	*Proechimys cuvieri* Petter, 1978	Dubost & Gasc (1987)	TRUE
Echimyidae	*Proechimys guairae* Thomas, 1901	Weir (1973)	TRUE
Echimyidae	*Proechimys longicaudatus* (Rengger, 1830)	Summarized in Shargal et al. (1999)	FALSE
Echimyidae	*Proechimys semispinosus* (Tomes, 1860)	McKee & Adler (2002)	TRUE
Echimyidae	*Proechimys* J. A. Allen, 1899	Summarized in Shargal et al. (1999)	TRUE
Gliridae	No species is specified	Summarized in Shargal et al. (1999)	FALSE
Gliridae	*Dryomys nitedula* (Pallas, 1778)	Summarized in Shargal et al. (1999)	FALSE
Gliridae	*Eliomys quercinus* (Linnaeus, 1766)	Summarized in Shargal et al. (1999)	FALSE
Gliridae	*Glis glis* (Linnaeus, 1766)	Summarized in Shargal et al. (1999)	FALSE
Gliridae	*Graphiurus crassicaudatus* (Jentink, 1888)	Summarized in Shargal et al. (1999)	FALSE
Gliridae	*Graphiurus.* Smuts, 1832	Summarized in Shargal et al. (1999)	FALSE
Gliridae	*Muscardinus avellanarius* (Linnaeus, 1758)	Summarized in Shargal et al. (1999); Juškaitis (2006)	FALSE
Heteromyidae	*Chaetodipus fallax* (Merriam, 1889)	Summarized in Shargal et al. (1999)	TRUE
Heteromyidae	*Heteromys australis* Thomas, 1901	Medina-Barón et al. (2018)	TRUE
Heteromyidae	*Heteromys desmarestianus* Gray, 1868	This study	FALSE
Heteromyidae	*Heteromys pictus* (Thomas, 1893)	Summarized in Shargal et al. (1999)	FALSE
Heteromyidae	*Heteromys* sp. nov.	Sánchez-Giraldo & Delgado-V (2009)[2]	TRUE
Heteromyidae	*Perognathus longimembris bangsi* Mearns, 1898	Summarized in Shargal et al. (1999)	TRUE
Muridae	*Acomys cahirinus* (É. Geoffroyi, 1803)	Shargal et al. (1999)	FALSE
Muridae	*Acomys kempi* Dollman, 1911	Seifert et al. (2012)	FALSE
Muridae	*Acomys percivali* Dollman, 1911	Seifert et al. (2012); Shargal et al. (1999)	FALSE
Muridae	*Acomys russatus* (Wagner, 1840)	Shargal et al. (1999)	FALSE
Muridae	*Acomys subspinosus* (Waterhouse, 1838)	Wester et al. (2018)	FALSE
Muridae	*Acomys wilsoni* Thomas, 1892	Shargal et al. (1999)	FALSE
Muridae	*Apodemus agrarius* (Pallas, 1771I	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Apodemus argenteus* (Temminck, 1845)	Iwasa & Hasegawa (2022)	TRUE
Muridae	*Apodemus flavicollis* (Melchior, 1834)	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Apodemus speciosus* (Temminck, 1845)	Iwasa & Hasegawa (2022)	TRUE
Muridae	*Apodemus sylvaticus* (Linnaeus, 1758)	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Lophuromys* Peters, 1874	Shargal et al. (1999)	FALSE
Muridae	*Mus musculus* (Linnaeus, 1758)	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Rattus norvegicus* (Berkenhout, 1769)	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Rattus rattus* (Linnaeus, 1758)	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Zyzomys pedunculatus* (Waite, 1896)	Summarized in Shargal et al. (1999)	FALSE
Muridae	*Zyzomys woodwardi* (Thomas, 1909)	Summarized in Shargal et al. (1999)	FALSE
Octodontidae	*Octodon degus* (Molina, 1782)	Summarized in Shargal et al. (1999)	TRUE
Sciuridae	*Funisciurus substriatus* De Winton, 1899	Summarized in Shargal et al. (1999)	FALSE
Sciuridae	*Tamias striatus* (Linnaeus, 1758)	Summarized in Shargal et al. (1999)	FALSE

[1]Although León-Alvarado (2024) aimed to review the phenomenon of caudal autotomy in rodents, his work did not fully update the taxonomy of several rodent species (e.g., *Peromyscus* and *Sigmodon* were still classified under Muridae, and there were some errors in species nomenclature). Additionally, the classification of autotomy types for certain species was incorrect (e.g., he categorized *Proechimys guairae* and *Heteromys australis* as exhibiting false autotomy, while Weir 1973 and Medina-Barón et al. 2018 considered it to be true respectively, as there was vertebral detachment). Furthermore, *Acomys kempi* and *A. subspinosus*, were omitted. [2]We found no evidence to which *Heteromys* they are referring to.

LITERATURE CITED

Arnold, E. N. 1987. Caudal autotomy as a defense. Biology of the Reptilia 16:235–273.

ASM. 2024. Mammal Diversity Database. <https://www.mammaldiversity.org/explore.html>. [Accessed on 25 April, 2024].

Bellairs, A., & S. V. Bryant. 1985. Autotomy and regeneration in reptiles. Biology of the Reptilia, Volume 15 Development B (C. Gans, & F. Billett, eds.). Wiley, New York.

Costa, H. C., M. R. Moura, & R. N. Feio. 2014. A Tale of lost tails: pseudoautotomy in the Neotropical snake genus *Drymoluber* (Serpentes: Colubridae). Canadian Journal of Zoology 92:811–816. https://doi.org/10.1139/cjz-2014-0115

Crnobrnja-Isailovic, J., Ć. Jelena, & B. Halpern. 2016. Deliberate tail loss in *Dolichophis caspius* and *Natrix tessellata* (Serpentes: Colubridae) with a brief review of pseudoautotomy in contemporary snake families. North-Western Journal of Zoology 12:367–372.

Ding, G. H., Z. H. Lin, & L. H. Zhao. 2014. Locomotion and survival of two sympatric larval anurans, *Bufo gargarizans* (Anura: Bufonidae) and *Rana zhenhaiensis* (Anura: Ranidae), after partial tail loss. Zoologia (Curitiba) 31:316–322. https://doi.org/10.1590/S1984-46702014000400002

Dubost, G., & J. P. Gasc. 1987. The process of total tail autotomy in the South-American rodent, *Proechimys*. Journal of Zoology 212:563–572. https://doi.org/10.1111/j.1469-7998.1987.tb02924.x

Ducey, P. K., E. D. Brodie, & E. A. Baness. 1993. Salamander tail autotomy and snake predation: role of anti-predator behavior and toxicity for three neotropical *Bolitoglossa* (Caudata: Plethodontidae). Biotropica 25:344–349. https://doi.org/10.2307/2388793

Dunaway, P. B., & S. V. Kaye. 1961. Studies of small-mammal populations on the radioactive white oak lake bed. Transactions of the North American Wildlife and Natural Resources Conference 26:167–185.

Emberts, Z., I. Escalante, & P. W. Bateman. 2019. The ecology and evolution of autotomy. Biological Reviews 94:1881–1896. https://doi.org/10.1111/brv.12539

Gilbert, E. A., S. L. Payne, & M. K. Vickaryous 2013. The anatomy and histology of caudal autotomy and regeneration in lizards. Physiological and Biochemical Zoology 86:631–644. https://doi.org/10.1086/673889

Gildemeister, E. A., W. I. Payette, & A. M. Sullivan. 2017. Effects of size, caudal autotomy, and predator kairomones on the foraging behavior of Allegheny Mountain dusky salamanders (*Desmognathus ochrophaeus*). Acta Ethologica 20:157–164. https://doi.org/10.1007/s10211-017-0259-2

Hosotani, M., et al. 2021. Unique histological features of the tail skin of cotton rat (*Sigmodon hispidus*) related to caudal autotomy. Biology Open 10:bio058230. https://doi.org/10.1242/bio.058230

Itgen, M. W., & S. K. Sessions. 2016. Tail autotomy as an anti-predator weapon in Neotropical plethodontid salamanders of the genus *Bolitoglossa*. Copeia 104:182–188. https://doi.org/10.1643/OT-14-211

ITIS. 2024. Integrated Taxonomic Information System. <www.itis.gov>. [Accessed on 25 April 2024].

Iwasa, M. A., & Hasegawa, A. (2022). Caudal vertebral fragilities related to loss of a tail part in two species of the Japanese field mice. Mammal Study 47(2):125–131.

Jaksic, F. M. & J. A Simonetti. 1987. Predatory/prey relationships among terrestrial vertebrates: an exhaustive review of studies conducted in southern South America. Revista Chilena de Historia Natural 60:221–244.

Juškaitis, R. 2006. Tail autotomy in the common dormouse (*Muscardinus avellanarius*): Some ecological aspects. Mammalian Biology 71:371–376. http://dx.doi.org/10.1016%2Fj.mambio.2006.04.008

Layne, J. N. 1972. Tail autotomy in the Florida mouse, *Peromyscus floridanus*. Journal of Mammalogy 53:62–71. https://doi.org/10.2307/1378827

Leon-Alvarado, O. D. 2024. Sobre la autotomía caudal en *Pattonomys semivillosus* (Rodentia: Echimyidae) y *Calommys hummelincki* (Rodentia: Cricetidae) en Colombia. Mammalogy Notes 10(2):425. https://doi.org/10.47603/mano.v10n2.425

Maiorana, V. C. 1977. Tail autotomy, functional conflicts and their resolution by a salamander. Nature 265(5594):533–535. https://doi.org/10.1038/265533a0

Mascarenhas-Junior, P. B. 2021. New predation records: *Tropidurus hispidus* (Spix, 1805) preying *Hemi-*

dactylus mabouia (Moreau and Jonnès, 1818) and *Amphisbaena vermicularis* Wagler, 1824 in Pernambuco, northeastern Brazil Herpetology Notes 14:645–648.

Medina-Barón, W. et al. 2018. Disponibilidad de alimento. In: La vida en un fragmento de bosque en las rocas: una muestra de la diversidad andina en Bolívar, Santander (Gil-Novoa, J. E., P. A. Gil-Leguizamón, & M. E. Morales-Puentes, eds.). Tunja: Editorial UPTC.

McKee, R. C., & G. H. Adler. 2002. Tail autotomy in the Central American spiny rat, *Proechimys semispinosus*. Studies on Neotropical Fauna and Environment 37:181–185. https://doi.org/10.1076/snfe.37.3.181.8568

Michelangeli, M., B. Melki-Wegner, K. Laskowski, B. Wong, & D. G. Chapple. 2020. Impacts of caudal autotomy on personality. Animal Behaviour 162:67–78. https://doi.org/10.1016/j.anbehav.2020.02.001

Payette, W. I., & A. M. Sullivan. 2019. The effect of predator kairomones on caudal regeneration by Allegheny Mountain Dusky Salamanders (*Desmognathus ochrophaeus*). Canadian Journal of Zoology 97:502–509. https://doi.org/10.1139/cjz-2018-0225

Salvador, A., J. Martin & P. López. 1995. Tail loss reduces home range size and access to females in male lizards, *Psammodromus algirus*. Behavioral Ecology 6:382–387. https://doi.org/10.1093/beheco/6.4.382

Sánchez-Giraldo, C., & C. A. Delgado-V. 2009. Dos nuevos casos de autotomía caudal en roedores suramericanos. Mastozoología Neotropical 16:481–484.

Seifert, A. W., S. G. Kiama, M. G. Seifert, J. R. Goheen, T. M. Palmer, & M. Maden. 2012. Skin shedding and tissue regeneration in African spiny mice (*Acomys*). Nature 489(7417): 561–565. https://doi.org/10.1038/nature11499

Shargal, E., L. Rath-Wolfson, N. Kronfeld, & T. Dayan. 1999. Ecological and histological aspects of tail loss in spiny mice (Rodentia: Muridae, *Acomys*) with a review of its occurrence in rodents. Journal of Zoology 249:187–193. https://doi.org/10.1111/j.1469-7998.1999.tb00757.x

Sikes, R. S., & The Animal Care and Use Committee of the American Society of Mammalogists. Guidelines of the American Society of Mammalogists for the use of wild mammals in research and education. Journal of Mammalogy 97:663–688. https://doi.org/10.1093/jmammal/gyw078

Sumner, F. B., & H. H. Collins. 1918. Autotomy of the tail in rodents. Biological Bulletin 34:1–6. https://doi.org/10.2307/1536244

Villalobos-Chaves, D., J. D. Ramírez-Fernández, E. Chacón-Madrigal, W. Pineda-Lizano, & B. Rodríguez-Herrera. B. 2016. Clave para la identificación de los roedores de Costa Rica. Escuela de Biología, Universidad de Costa Rica, Ciudad Universitaria Rodrigo Facio, Costa Rica.

Weir, B.J. 1973. Another hystricomorph rodent: keeping casiragua (*Proechimys guairae*) in captivity. Laboratory animals 7:125–134. https://doi.org/10.1258/0023677737810086

Wester, P., A. S. N. Karvang, & T. Niedzwetzki. 2018. Loss of tail sheath (false autotomy) in South African Cape spiny mice (*Acomys subspinosus*). African Journal of Ecology 56:656–658. https://doi.org/10.1111/aje.12521