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TAXONOMIC HISTORY OF THE NEOTROPICAL HARES OF THE GENUS *SYLVILAGUS*, SUBGENUS *TAPETI*

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The present paper is confined to a review of the taxonomic literature dealing with those species of *Sylvilagus* which inhabit South America, and those members of the "*Sylvilagus gabbi* group" of Nelson (1909) which occur in Central America. These latter are included because they represent the nearest allies geographically to the South American animals. Since the publication of Nelson's monograph 'The Rabbits of North America,' two races, *S. g. consobrinus* Anthony and *S. g. messorius* Goldman, have been added to the *gabbi* ranks.

TAXONOMIC HISTORY

1648. Marcgrave described (pp. 223-224) "*Tapeti brasiliensibus*, item est Cuniculi species, major quam Aperea, & dupla magnitudine gliris . . ." This animal Thomas (1901b) thought identifiable as the little hare of Rio de Janeiro (in 1913 named *tapetillus*) but subsequently (1911) correlated with the rather larger form found in the Pernambuco region.

The description furnished the basis of *Lepus brasiliensis* Linnaeus.

1693. Ray cited (pp. 205-206) Marcgrave's description.
1758. Linnaeus (I, p. 58) described *Lepus brasiliensis*, based upon his own 9th edition of 'Systema Naturae,' upon Marcgrave's *Tapeti* and upon Ray (who based his account upon Marcgrave's). See Thomas, 1901b, 1911, and 1913. [A great many compilers subsequently made reference to this species.]
1778. Pallas named (p. 30) Marcgrave's hare "*Lepus (tapeti)*." Thus a synonym of *brasiliensis*.
1782. Molina employed (p. 306) the term *Lepus minimus* for a cavy (probably of the genus *Galea*).
1801. Azara wrote (II, pp. 57-64) of the Tapiti (probably *paraguensis* Thomas).
1825. Wied discussed (pp. 450-452) "*Lepus brasiliensis*."

1830. Rengger gave (pp. 247–250) an account of “*Lepus brasiliensis*” (probably *paraguensis*).
1845. Tschudi stated (p. 198) that Poeppig found “*Lepus brasiliensis*” at Maynas on the Marañon (probably *de-filippi*).
1848. Waterhouse, reviewing the hares (pp. 1–146), dealt with *L. brasiliensis* (*sic*). His description was based partly upon a skin from Bolivia (probably *b. gibsoni* or *inca*), partly upon a skull from Pará (probably true *brasiliensis*) and fossil material from Lagoa Santa.
1850. Cornalia in Osculati described (p. 309) *Lepus de-filippi*, comparing it with *brasiliensis*.
1854. Burmeister reviewed (pp. 251–254) the data upon “*L. brasiliensis*,” and contributed original observations.
1859. Baird distinguished (p. 575) as his section “D,” the group of rabbits upon which Gray (1867) based *Sylvilagus*.
1860. Tomes recorded (p. 260) “*Lepus brasiliensis*,” from Fraser’s expedition to Ecuador. This may have been any one of a number of species of that country.
1867. Gray published (pp. 219–225) an important classification of the hares. He erected (p. 221) *Sylvilagus* and (p. 224) *Tapeti*. The former was founded upon section “D” of Baird (1859) and comprised the species *nanus*, *artemisia*, and *bachmanni*; the latter was proposed to contain *brasiliensis*.
1869. Frantzius recorded (pp. 247–325) “*Lepus brasiliensis*.” This must have been a member of the *gabbi* group.
1872. Hensel discussed (p. 62) “*Lepus brasiliensis*” from Rio de Janeiro. He did not record it from Rio Grande do Sul. I suspect that Hensel’s description referred to *tapetillus* Thomas.
1875. J. A. Allen, in his ‘Synopsis of American Leporidae,’ keyed out (p. 432) “*brasiliensis*” and gave for it (p. 435) a short synonymy. He failed to mention *de-filippi*.
1877. J. A. Allen described (pp. 348–350) “*Lepus brasiliensis* var. *gabbi*” and discussed “*L. brasiliensis*.”
1880. Alston reviewed (pp. 175–181) the status of the Central American hares. He made *gabbi* Allen (1877) a full species.
1881. Trouessart followed (1880, p. 207) Gray’s generic arrangement. He listed *gabbi* Allen and *defilippi* (*sic*) Cornalia as subspecies of “*brasiliensis*.”

1882. Thomas recorded (p. 101) "*brasiliensis*" from Cutervo, Peru, 9000 feet. (Probably equal to his *capsalis*.)
1883. Pelzeln recorded (pp. 79–80) "*brasiliensis*" taken by Natterer from the Provinces São Paulo and Matto Grosso (*b. minensis* and *b. chapadae*?).
1888. Winge wrote (pp. 10–11, 110–114) of the Leporidae.
1890. J. A. Allen described (pp. 192–194) *Lepus truei*, comparing it with *palustris* and *aztecus*.
1891. J. A. Allen mentioned (p. 216) the almost total destruction of the "two types" of *gabbi* by museum pests.
1894. Hartert described (p. 40) *Lepus nigronuchalis*.
1894. Matschie recorded (p. 62) "*L. brasiliensis*" from near Tucuman and Jujuy (probably equal to *gibsoni*).
1896. Robinson recorded (p. 651) "*brasiliensis*" from Margarita (= *margaritae* Miller).
1897. Thomas described (pp. 551–552) *Lepus andinus*, comparing it with *sylvaticus*, and *Lepus cumanicus*. He suggested that *defilippi* was nearly allied to *brasiliensis*.
1898. Miller described (pp. 97–98) *Lepus margaritae*, related to *cumanicus*.
1898. Trouessart treated (pp. 658–663) *Sylvilagus* and *Tapeti* as subgenera of *Lepus*.
1899. J. A. Allen described (pp. 196–197) *Lepus (Sylvilagus) superciliaris*, compared with *cumanicus*. "Belongs to . . . the section represented by *L. insolitus* . . . no close relation to the subgenus *Tapeti*."
1899. Major discussed (pp. 433–520) the *Lagomorpha*.
1900. Thomas described (pp. 356–357) *Sylvilagus orinoci*.
1901. Bangs described (pp. 631–644) *Lepus (Tapeti) incitatus*, "an island form of *gabbi*."
- 1901a. Thomas described (pp. 543–545) *Sylvilagus surdaster*, which he compared with *gabbi*.
- 1901b. Thomas described (pp. 534–535) *Sylvilagus minensis*. He recognized three types of South Brazilian hares: the form from Paraguay, *minensis*, and true *brasiliensis*. He fixed the type locality of the last as Rio de Janeiro (but see Thomas, 1911 and 1913).
- 1901c. Thomas described (p. 539) *Sylvilagus paraguensis*, allied to *minensis*.
1903. Thomas described (pp. 241–242) *Sylvilagus minensis chapadae*.

1904. J. A. Allen published (p. 445) Smith's notes on *S. superciliaris*.
1904. Lyon published his 'Classification of the Hares and Their Allies.' In it *Tapeti* was merged (p. 334) with *Sylvilagus*.
1904. Nelson described (pp. 103-104) *Lepus (Sylvilagus) insonus*, allied to *gabbi*.
1904. Thomas described (p. 36) *Sylvilagus meridensis*, allied to *andinus*.
1905. Trouessart placed (pp. 536-539) the Central American rabbits of the *gabbi* group with *floridanus* in the subgenus *Sylvilagus* and all the South American ones in the subgenus *Tapeti*.
1908. J. A. Allen described (pp. 647-670) *Lepus gabbi tumacus*.
1909. Nelson published 'The Rabbits of North America.' In it (p. 257) *Tapeti* was shown as a subgenus of *Sylvilagus*. No species from south of Panama were discussed.
1910. Osgood described (pp. 29-30) *Sylvilagus avius*. He thought that many of the South American forms would eventually be reduced to subspecific rank.
1910. Trouessart described (pp. 25-27) *Sylvilagus (Tapeti) ecaudatus*.
1911. Thomas revised his views of 1901 and fixed (p. 146) the type locality of *brasiliensis* as Pernambuco (see also 1913).
1911. J. A. Allen recorded (p. 249) *S. cumanicus* Thomas from Tocuyo, fifty miles southwest of Barquisimeto, Venezuela.
1912. J. A. Allen described (p. 75) *Sylvilagus (Tapeti) fulvescens* which he compared with *surdaster* and *andinus*.
1912. Goldman described (pp. 1-18) *Sylvilagus gabbi messorius*.
1912. Osgood described (pp. 57-58) *Sylvilagus nigronuchalis continentis*.
1913. J. A. Allen described (pp. 476-477) *Sylvilagus (Tapeti) salentus*:
". . . belongs to the *Tapeti* section of the genus and is nearly related to *S. gabbi* . . ." It was compared with *surdaster*. He remarked also on *fulvescens*.
1913. Thomas referred a series from Lamarão, Bahia, to *brasiliensis* and gave the new name *tapetillus* to the very small species from Rio de Janeiro, which until 1911 had been called *brasiliensis*. He held that the Lamarão rabbits, *minensis*, *chapadensis*, and *paraguensis*, together with a new form, "*brasiliensis inca*," from eastern Peru (pp. 210-211), were all subspecies of a single wide-ranging species. He discussed also (p. 211) intergradation northward of "*brasiliensis*" with Colombian and Orinoco forms.

Next he reviewed (pp. 212-214) the *andinus* group,

- describing as new *Sylvilagus a. chimbanus*, *S. a. canarius*, and *S. capsalis*.
1913. Cabrera described (pp. 1-15) *Sylvilagus nivicola*. He made a key to the Andean forms and considered *ecaudatus* Trouessart a synonym of *a. andinus*. He afterwards discussed other South American hares.
1914. J. A. Allen described (pp. 199-200) *Sylvilagus daulensis*. He compared it with *surdaster*.
1914. Osgood commented (p. 171) upon *defilippi* and *inca*.
1914. Stone remarked (p. 15) upon *andinus*,—probably the subspecies *chimbanus*.
1914. Thomas described (pp. 410-414) *Sylvilagus valenciae*, which he compared with *cumanicus* and *orinoci*.
1916. J. A. Allen described (pp. 83-87) *Sylvilagus boylei*. He maintained that it "needed no comparison" with *continentis*, *cumanicus*, and *gabbi*.
1917. Anthony described (pp. 335-337) *Sylvilagus gabbi consobrinus*.
1918. Thomas described (pp. 186-193) *Sylvilagus brasiliensis gibsoni*, comparing it with *paraguensis*.
1920. Goldman commented (pp. 146-148) on the rabbits of Panama.
1920. Thomas described (pp. 31-33) *Sylvilagus apollinaris*, allied to *surdaster* and *meridensis*, and *S. purgatus*, which was compared to *margaritae*.
1921. Thomas described (pp. 442-443) *Sylvilagus nicefori*, "nearly allied to *S. apollinaris*."
1923. Anthony described (pp. 9-13) *Sylvilagus kelloggi* and *S. chillae*, comprising a "third group," set off from the *andinus* and *daulensis* groups.
1925. Pocock discussed (pp. 669-700) the external characters of the lagomorphs.
1927. Thomas admitted (p. 371) that the rabbits of the Moyobamba region of Peru might be *defilippi*.
1929. Dice discussed (pp. 340-344) the phylogeny of the Leporidae.
1929. Krieg commented (pp. 784-785) upon *S. paraguensis*.

Regarding the identity and type locality of *brasiliensis* some confusion has existed. *Brasiliensis* Linnaeus (1758) was based upon the Brazilian hare described by Marcgrave. At first, Thomas (1901b) fixed *brasiliensis* upon the small rabbit of Rio de Janeiro, and this conclusion was accepted by Nelson in his monograph of the rabbits (1909). But in

1911 Thomas stated (without offering evidence to prove it) that Marcgrave,¹ on whose description *brasiliensis* was based, "stayed chiefly at 'Moritzstadt,' now Recife, most of his time, 1640-1644, while even his excursions were limited to the coast region between 5° 45' and 11° 11' S. . . ." In 1913, Thomas wrote of a series of rabbits from Lamarão, Bahia, which he included with true *brasiliensis* from a little farther north (Pernambuco).

As Thomas (1901b), has already remarked, Marcgrave described an extremely small hare. But any or all of the Brazilian species must have seemed small to him in comparison with those he knew in Europe. Moreover, his comparisons to show size "larger than a cavy, and double the size of a glire" are not particularly significant. Since the evidence points solely to the Pernambuco region as the scene of Marcgrave's activities and indicates (negatively) that he never reached Rio de Janeiro or farther south, we ought to conclude that Thomas's fixation of Rio de Janeiro as type locality for *brasiliensis* and his bestowal of that name on the tiny Rio hare (*tapetillus*) were both erroneous. In consequence, I feel that we must accept his designation of 1911: namely, that *brasiliensis* refers to the slightly larger animal of the Pernambuco region with Pernambuco itself fixed as its type locality.

A few words may be added regarding the orthography of Cornalia's hare. This author wrote *De-Filippi* (*sic*). In zoölogical writing we are at liberty to use small letters instead of capitals for patronymics, but, we are not permitted (Arts. 19, 20, 'International Rules of Nomenclature') to omit hyphens or diacritical marks. Accordingly the name must be written *de-filippi*.

LIST OF NAMED FORMS WITH TYPE LOCALITIES

South Amazonian Region

<i>brasiliensis brasiliensis</i> (Linnaeus)	Pernambuco, Brazil (Thomas, 1911), Not Rio de Janeiro (Thomas, 1901)
Synonym: <i>tapeti</i> Pallas	
<i>brasiliensis paraguensis</i> Thomas	Sapucay, Paraguay
<i>brasiliensis minensis</i> Thomas	Rio Jordão, S. W. Minas Geraes, Brazil
<i>brasiliensis chapadae</i> Thomas	Santa Anna de Chapada, 30 miles north- east of Cuyaba, Matto Grosso, Brazil, 800 m.
<i>brasiliensis gibsoni</i> Thomas	Manuel Elordi, Vermejo, Salta, Argen- tina, 500 m.
<i>brasiliensis inca</i> Thomas	Cadena, Marcapata, Peru

¹For discussion of Marcgrave, see Gudger, 1912, Popular Science Monthly, LXXXI, p. 250, and 1914, Science, XL, p. 507.

tapetillus Thomas

Porto Real, near Rezende, Rio de Janeiro, Brazil

Orinoco and West Amazonian Region

de-filippi Cornalia

Woods of Quixos, eastern Ecuador

orinoci Thomas

Maipures, Upper Orinoco, Venezuela

valenciae Thomas

Near Lake Valencia, Carabobo, Venezuela

cumanicus Thomas

Cumana, Prov. Sucre, coast of Venezuela

margaritae Miller

Margarita Is., off Prov. of Sucre, Venezuela

Andean Region

capsalis Thomas

San Pablo, Cajamarca, Peru. 2000 m.

kelloggi Anthony

Guachanama, Prov. Loja, Ecuador, 9050 ft.

chillae Anthony

Salvias-Zaruma trail, Prov. Oro, Ecuador, 6600 ft.

andinus canarius Thomas

Cañar, Ecuador, 2600 meters

andinus chimbanius Thomas

Sinche, western slope of Mt. Chimborazo, Ecuador, 4000 m.

andinus andinus Thomas

Western slope of Mt. Cayambe, Ecuador, 4000 m.

Synonym?: *ecaudatus* Trouessart*nivicola* Cabrera

Neighborhood of Quito, Ecuador

salentus J. A. Allen

Mt. Antisana, Ecuador, 4800 m.

fulvescens J. A. Allen

Salento, West Quindio Andes, Colombia, 7000 ft.

apollinaris Thomas

Belen, western Andes, Colombia, 6000 ft.

purgatus Thomas

Choachi, near Bogotá, Colombia

Purificacion, Magdalena Valley, S. W. of Bogotá, Colombia

nicefori Thomas

San Pedro, Medellin, Colombia

meridensis Thomas

Sierra de Merida, Venezuela

Panama, North Pacific and Caribbean coasts of South and Central America

daulensis J. A. Allen

Daule, Guayas, Ecuador

surdaster Thomas

Carondelet, R. Bogotá, Prov. Esmeraldas, Ecuador, 20 m.

superciliaris J. A. Allen

Bonda, Santa Marta Dist., Colombia

boylei J. A. Allen

La Playa, near Baranquilla, Colombia

nigronuchalis nigronuchalis Hartert

Aruba Island

nigronuchalis continentis Osgood

Maracaibo, Venezuela

avius Osgood

Testigo Grande, Testigos Islands, Venezuela

gabbi messorius Goldman

Cana, eastern Panama, 1800 ft.

gabbi consobrinus Anthony

Old Panama, Panama

gabbi incitatus Bangs

San Miguel Island, off Panama

gabbi gabbi J. A. Allen
gabbi tumacus J. A. Allen
gabbi trueti J. A. Allen
gabbi insonus Nelson

Talamanca, Costa Rica
 Tuma, east of Matagalpa, Nicaragua
 Mirador, Mexico
 Omilteme, Guerrero, Mexico

LIST OF REFERENCES

- ALLEN, J. A. 1875. Proc. Bost. Soc. Nat. Hist., XVII, pp. 430-436.
 1877. 'Mongr. North Amer. Rodentia.' Hayden Survey Reports, XI, Leporidae, pp. 265-378.
 1890. Bull. Amer. Mus. Nat. Hist., III, pp. 175-194.
 1891. Bull. Amer. Mus. Nat. Hist., III, pp. 203-218.
 1899. Bull. Amer. Mus. Nat. Hist., XII, pp. 195-218.
 1904. Bull. Amer. Mus. Nat. Hist., XX, pp. 407-468.
 1908. Bull. Amer. Mus. Nat. Hist., XXIV, pp. 647-670.
 1911. Bull. Amer. Mus. Nat. Hist., XXX, pp. 239-273.
 1912. Bull. Amer. Mus. Nat. Hist., XXXI, pp. 71-95.
 1913. Bull. Amer. Mus. Nat. Hist., XXXII, pp. 469-484.
 1914. Bull. Amer. Mus. Nat. Hist., XXXIII, pp. 199-200.
 1916. Bull. Amer. Mus. Nat. Hist., XXXV, pp. 83-87.
- ALSTON, E. R. 1880. 'Biologia Centrali-Americana.' Mammalia.
- ANTHONY, H. E. 1917. Bull. Amer. Mus. Nat. Hist., XXXVII, pp. 335-337.
 1923. Amer. Mus. Novit., No. 55.
- AZARA, F. 1801. 'Essais Hist. Nat. Quadr. Paraguay,' II.
- BAIRD, S. F. 1859. 'Mammals of North America.'
- BANGS, O. 1901. Amer. Nat., XXXV, pp. 631-644.
- BURMEISTER, H. 1854. 'Syst. Übersicht Thiere Brasiliens.'
- CABRERA, A. 1913. Trab. Mus. Cien. Nat., Madrid, No. 9, pp. 1-15.
- CORNALIA, E., IN OSCULATI, C. 1850. 'Expl. . . . reg. . . . Amazzoni,' Milan.
- DICE, L. R. 1929. Journ. Mamm., X, pp. 340-344.
- FRANTZIUS, A. VON. 1869. Arch. f. Nat., pp. 247-325.
- GOLDMAN, E. A. 1912. Smiths. Misc. Coll., LX, No. 2, pp. 1-18.
 1920. Smiths. Misc. Coll., LXIX, No. 5, pp. 1-309.

- GRAY, J. E. 1867. *Ann. Mag. Nat. Hist.*, (3) XX, pp. 219-225.
- HARTERT, E. 1894. *Novit. Zool.*, I, p. 40.
- HENSEL, R. 1872. *Abh. Ak. Wiss. Berl.*, pp. 1-130.
- KRIEG, H. 1929. *Z. Morph. Ökol. Tiere*, Berlin, XV, pp. 755-785.
- LINNAEUS, C. 1758. '*Syst. Nat.*,' 10th Ed., I, p. 58.
- LYON, M. W. 1904. *Smiths. Misc. Coll.*, XLV, pp. 321-447.
- MAJOR, C. J. F. 1899. *Trans. Linn. Soc. London*, (2) VII, pp. 433-520.
- MARCGRAVE, G. 1648. '*Hist. Rerum Nat. Brasil*,' pp. 223-224.
- MATSCHIE, P. 1894. *Sitz.-ber. Ges. Naturf. Freunde*, pp. 57-64.
- MILLER, G. S., Jr. 1898. *Proc. Biol. Soc. Wash.*, XII, pp. 97-98.
- MOLINA, J. I. 1782. '*Sagg. Stor. Nat. Chili*,' 1st Ed.
- NELSON, E. W. 1904. *Proc. Biol. Soc. Wash.*, XVII, pp. 103-110.
1909. '*North Amer. Fauna*,' No. 29.
- OSGOOD, W. H. 1910. *Field Mus. Nat. Hist. Publ., Zool. Ser.*, X, pp. 23-32.
1912. *Field Mus. Nat. Hist. Publ., Zool. Ser.*, X, pp. 33-66.
1914. *Field Mus. Nat. Hist. Publ., Zool. Ser.*, X, pp. 143-185.
- PALLAS, P. S. 1778. '*Nov. Spec. Quadr. e. Glirium ordine. . .*,' p. 30.
- PELZELN, A. VON. 1883. *Verh. Zool. Bot. Ges. Wien*, XXXIII, anhang.
- POCOCK, R. I. 1925. *Proc. Zool. Soc. London*, pp. 669-700.
- RAY, J. 1693. '*Synopsis meth. Anim. Quadr.*,' pp. 205-206.
- RENGGER, J. R. 1830. '*Naturg. Säug. Paraguay*.'
- ROBINSON, W. 1896. *Proc. U. S. Nat. Mus.*, XVIII (1895), p. 651.
- STONE, W. 1914. *Proc. Ac. Nat. Sci. Phila.*, LXVI, pp. 9-19.
- THOMAS, O. 1882. *Proc. Zool. Soc. London*, pp. 98-111.
1897. *Ann. Mag. Nat. Hist.*, (6) XX, pp. 544-552.
1900. *Ann. Mag. Nat. Hist.*, (7) V, pp. 354-357.
- 1901a. *Ann. Mag. Nat. Hist.*, (7) VII, pp. 541-555.
- 1901b. *Ann. Mag. Nat. Hist.*, (7) VIII, pp. 526-536.
- 1901c. *Ann. Mag. Nat. Hist.*, (7) VIII, pp. 536-539.
1903. *Proc. Zool. Soc. London*, II, pp. 232-244.
1904. *Ann. Mag. Nat. Hist.*, (7) XIV, pp. 33-37.
1911. *Proc. Zool. Soc. London*, pp. 120-158.
1913. *Ann. Mag. Nat. Hist.*, (8) XI, pp. 209-214.

1914. *Ann. Mag. Nat. Hist.*, (8) XIV, pp. 410-414.
1918. *Ann. Mag. Nat. Hist.*, (9) I, pp. 186-193.
1920. *Ann. Mag. Nat. Hist.*, (9) V, pp. 31-33.
1921. *Ann. Mag. Nat. Hist.*, (9) VIII, 442-443.
1927. *Ann. Mag. Nat. Hist.*, (9) XIX, pp. 361-373.
- TOMES, R. F. 1860. *Proc. Zool. Soc. London*, p. 260.
- TROUESSART, E.-L. 1881. *Bull. Soc. Etudes Scient. Angers*, (1880), pp. 58-212.
1898. 'Cat. Mamm. viv. foss.'
1905. 'Cat. Mamm. viv. foss.' Supplement.
1910. *Miss. de l'Equateur Paris*, IX, pt. 1, pp. 1-31.
- TSCHUDI, J. J. VON. 1845. 'Untersuchungen Fauna Peruana.'
- WATERHOUSE, G. R. 1848. 'Nat. Hist. Mammalia,' II, pp. 1-146.
- WIED, M. A. 1825-1833. 'Beiträge z. Naturg. v. Brasilien, II, pp. 416-478.
- WINGE, H. 1888. *E. Mus. Lundii*, I.