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A NEW PHYLLOTINE RODENT (GENUS *GRAOMYS*)
FROM PARAGUAY

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STUDY OF MAMMALS collected in Paraguay in 1972-73 reveals a new species of the genus *Graomys* Thomas, 1916, which is strikingly different from the common and widespread *G. griseoflavus* (Waterhouse). This species resembles in some aspects the poorly known forms *G. edithae* Thomas and *G. hypogaeus* Cabrera, described from localities at much higher elevations in northwestern Argentina.

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This species is named in honor of Dr. Oliver P. Pearson, in recognition of his work on South American mammals.

Graomys pearsoni, new species

HOLOTYPE.—Museum of Vertebrate Zoology number 145276; adult male, skin and skull; collected 24 September 1973 by the author; 410 km NW Villa Hayes by road, Departamento Boquerón, Paraguay; original number 1161 P.M.

DISTRIBUTION.—Also known from 0.5 km S Teniente Enciso, and 2.5 km S Teniente Enciso (km 655 Trans Chaco), Departamento Nueva Asunción, Paraguay; these specimens (University of Connecticut Museum of Natural History numbers 17562, 17563, 17566, 17568, 17575, 17579, 17580) were collected by R. M. Wetzel, R. E. Dubos and R. L. Martin.

DESCRIPTION (of holotype, except dental characters, which are more easily determined on the younger animals in the University of Connecticut Museum of Natural History series; however, all characters appear to agree with the condition of the more worn teeth of the holotype).—Upper parts brown streaked with gray; fur on rump about 10 mm long, slate gray at base; hairs on venter white to base; small buffy patch behind ears; feet white on top; tail bicolor, dorsal third brown, ventral two-thirds buffy, sparsely covered with hair, no pencil (hair extends less than 3 mm beyond tip). Skull (Plate 1) lightly constructed; supraorbital edges ridged and divergent posteriorly; rostrum slender with sides of nasals converging slightly anteriorly; zygoma slender; infraorbital foramen large dorsally; anterior border of parapterygoid plates with curved lateral margins; mesopterygoid fossa narrow; bullae inflated; mandible not robust, coronoid process weak. Molars small (especially M^3) (Table 1; Plate 2): M^1 (terminology follows Hershkovitz, 1962): anterocone strongly notched, forming a small anterolingual conule and much larger anterolabial conule, even in moderately worn specimens. M^2 : anteroloph small and directed nearly anteriorly; metacone smaller than hypocone. M^3 : anteroloph reduced or absent. M_1 : procingulum with notch in anterior edge; anterolingual conulid smaller than anterolabial conulid; protoconid nearly opposite metaconid, and hypoconid to entoconid; labial edge of anterolabial conulid extends posteriorly only to level of anterior edge of metaconid in specimens with relatively unworn teeth. M_2 : anteroconulid and first minor fold absent. M_3 : quadrate in outline.

MEASUREMENTS (of holotype, in mm).—Total length 236; tail 124; hind foot 25; ear 20; greatest length of skull 30.6; condylobasal

TABLE 1
MOLAR SIZE IN *GRAOMYS PEARSONI* AND
G. GRISEOFLAVUS CHACOENSIS

	<i>G. pearsoni</i> n=9	<i>G. g. chacoensis</i> n=27
Length M^1	2.26 (2.0-2.4)*	2.57 (2.3-3.0)
Length M^2	1.22 (1.1-1.3)	1.53 (1.4-1.7)
Length M^3	0.92 (0.8-1.0)	1.20 (1.0-1.4)
Width M^3	1.08 (1.0-1.2)	1.43 (1.1-1.7)

*Mean followed by range; measurements in mm.

length 27.9; zygomatic breadth 15.3; least interorbital constriction 5.2; breadth of braincase 13.2; mastoid breadth 12.2; basal length 25.7; maxillary tooththrow 4.9; palatal breadth 6.2; mandibular tooththrow 4.1.

COMPARISONS.—*Graomys pearsoni* is considerably smaller than *G. cachinus* (Allen), *G. centralis* (Thomas), and *G. taterona* Thomas (measurements taken from type descriptions, see Allen, 1901; Thomas, 1902; Thomas, 1918; Thomas, 1919; Thomas, 1926), all of which were referred to *Phyllotis griseoflavus griseoflavus* or *P. griseoflavus domorum* (Thomas) by Hershkovitz (1962). *Graomys pearsoni* differs from *G. griseoflavus chacoensis* (Allen) (also referred to *P. griseoflavus griseoflavus* by Hershkovitz, 1962), with which it occurs sympatrically.

TABLE 2
COMPARISON OF *GRAOMYS PEARSONI* WITH *G. EDITHAE*,
G. HYPOGAEUS AND *G. GRISEOFLAVUS CHACOENSIS*
(Measurements in millimeters)

	<i>G. pearsoni</i> * n=9	<i>G. edithae</i> **	<i>G. hypogaeus</i> †	<i>G. g. chacoensis</i> * n=27
head and body	100 (86-113)	108	80	128 (114-261)
tail	110 (97-124)	127	114	158 (133-183)
hind foot	24 (22-25)	25	23	30 (26-34)
ear	19 (18-20)	20	18	24 (23-28)
greatest length skull	29.5 (27.3-30.8)	28.5	23	33.1 (30.7-37.6)
condylobasal length	26.6 (24.7-27.9)	26.5	22	30.2 (27.7-34.8)
zygomatic breadth	14.6 (13.1-15.3)	15	13.5	16.6 (15.5-18.8)
braincase breadth	13.0 (12.3-13.4)	13.5	--	13.9 (13.3-14.9)
least interorbital breadth	4.8 (4.5-5.2)	4.5	4	5.3 (4.8-6.4)
palatilar length	13.1 (12.1-14.4)	12.8	10.3	14.4 (13.1-16.3)
palatine foramina length	6.4 (5.9-7.0)	6.7	5.5	7.5 (6.6-8.9)
nasal length	11.5 (9.9-12.5)	10.5	8	13.0 (11.4-15.1)
bullal length	5.5 (5.1-5.9)	6	4.5	6.2 (5.8-7.1)
diastema length	7.5 (6.8-8.1)	--	6	8.1 (7.2-9.8)
maxillary tooththrow length	4.7 (4.4-4.9)	4.7	3.6	5.7 (4.9-6.1)
mandibular tooththrow length	4.2 (3.9-4.5)	--	4	5.4 (4.6-5.8)

*mean and range (in parentheses)

**measurements of type (Thomas, 1919)

†measurements of type (Cabrera, 1934)

Graomys pearsoni is much smaller (Table 2) in most dimensions, with proportionately shorter ears and tail. Its tail is less strongly bicolored, less hairy, and lacks a pencil. *Graomys pearsoni* also lacks the rufous tinge seen on the dorsum of most specimens of *G. griseoflavus* obtained by us in Paraguay. The crania of the two species are similar in shape, except that the sides of the rostrum are parallel in *G. griseoflavus chacoensis*, and the parapterygoid plates of *G. griseoflavus chacoensis* are narrower with straight lateral margins. *Graomys griseoflavus chacoensis* is distinguished dentally in the following ways (cf. above description of *G. pearsoni* and Plate 2): M_1 procingulum is weakly notched (visible only in specimens with relatively unworn teeth), and the anterolingual conule nearly equals the anterolabial conule; M^2 and M^3 possess a large and laterally directed anteroloph, and the metacone of M_2 is equal to or exceeds the hypocone in size; M_1 lacks a notch in the anterior edge, the metaconid and hypoconid are diagonally anterior to the protoconid and entoconid, respectively, and the labial edge of the anterolabial conulid sweeps posteriorly, ending at the level of the posterior margin of the metaconid in relatively unworn teeth; M_2 possesses an anteroconulid, and the first minor fold is well developed; M_3 is large and rectangular in outline (Table 1).

Graomys edithae (see Thomas, 1919, for measurements of type) is similar in size to *G. pearsoni*. According to O. P. Pearson, who has examined the type of *G. edithae* as well as some of the specimens described herein (personal communication), the tail of *G. pearsoni* is much less hairy, the skull bigger, and the molars smaller (see Table 2). Unfortunately, no information on molar structure of *G. edithae* is available. *Graomys hypogaeus* (see Cabrera, 1934, for measurements of type) is much smaller than *G. pearsoni* (especially cranially, Table 2), and has a pronounced pencil on the tail (which is also strongly bicolored). The molar pattern described by Cabrera for *G. hypogaeus*, however, is very similar to that of *G. pearsoni*. Unfortunately, as pointed out by Hershkovitz (1962), Cabrera (1961) subsequently placed *G. hypogaeus* in synonymy with *G. griseoflavus medius* Thomas, which has molars similar to those of *G. griseoflavus chacoensis*.

In summary, *Graomys pearsoni* is probably most closely allied with *G. edithae* and/or *G. hypogaeus*. Clarification of its relationships, however, must await further information on all three species.

ECOLOGY.—*Graomys pearsoni* inhabits dry grasslands, which occur as islands in the western Chaco of Paraguay. The surrounding thornscrub is occupied by *G. griseoflavus chacoensis*. Other species of rodents also trapped at localities with *G. pearsoni* include *Akodon varius toba* Thomas, *Calomys callosus* (Rengger), *C. laucha* (Desmar-

est), *Pseudoryzomys wavrini* (Thomas) (R. M. Wetzel, personal communication), two species of *Oryzomys* (*Oligoryzomys*), *Ctenomys conoveri* Osgood, and *Galea musteloides* Meyen.

Pieces of a partially masticated insect were discovered between the jaws of a snap-trapped *Graomys pearsoni*.

Two females trapped in July were neither pregnant nor lactating. One subadult male, however, was trapped at the same time, suggesting that some winter breeding occurs. Five males trapped in July and three in September all had large, scrotal testes.

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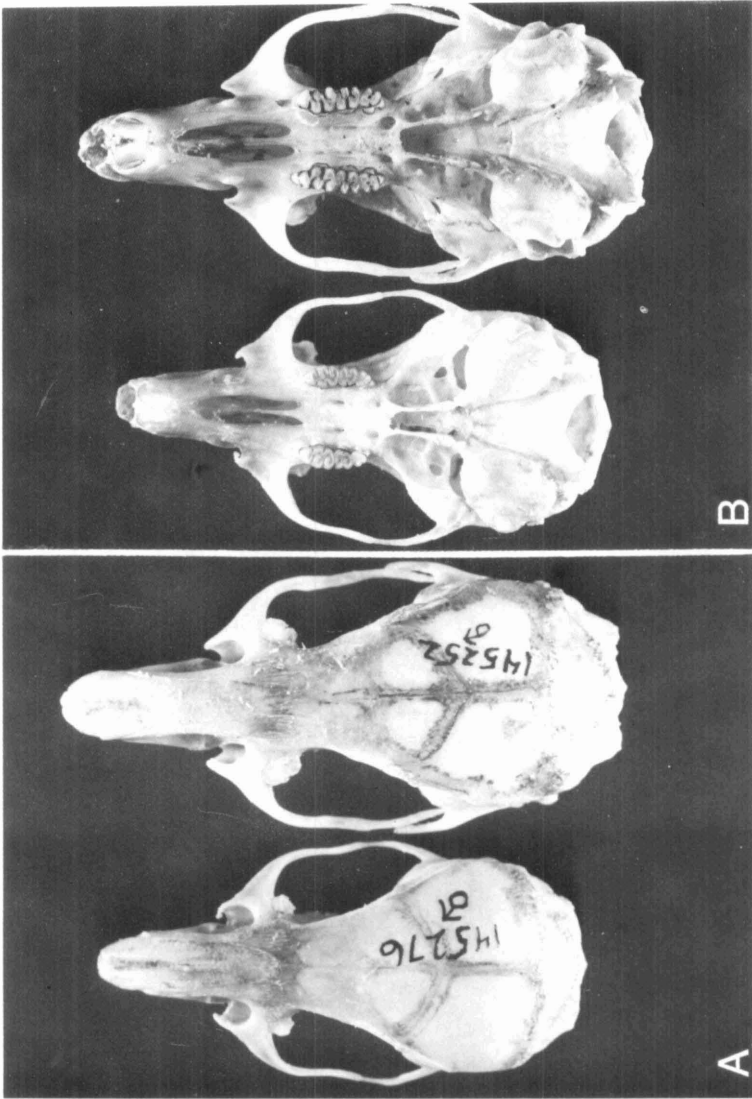


PLATE I

Dorsal (A) and ventral (B) views of the skulls of *Graomys pearsoni* (on the left) and *G. griseoflavus chacoensis* (on the right).

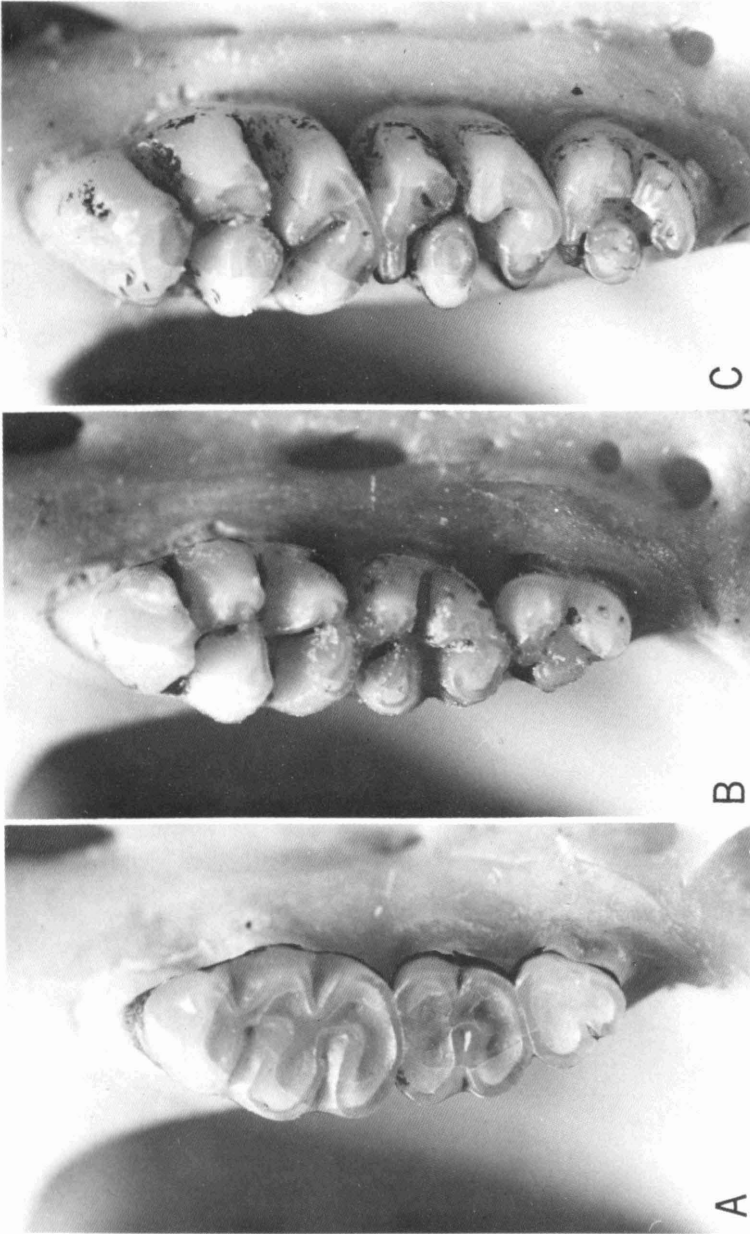


PLATE II
Right upper tooththrow of the holotype (A) and a young adult (B) of *Graomys pearsoni*
and *G. griseoflavus chacoensis* (C).

