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## THE SOUTH AMERICAN CRICETIDÆ DESCRIBED

## BY FELIX AZARA

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Because of the scientific names given them by Desmarest and Fischer, the mice whose descriptions were so meticulously recorded by Azara in his 'Essais' (1801)¹ and his 'Apuntamientos' (1802)² are to be reckoned among the key species in systematic work among the South American Cricetidæ. For this reason it has been thought desirable to draw up a careful analysis of the forms and to set forth any conclusions that can be reached regarding them, in the light of modern nomenclatorial standards.

Four points stand out: (1) Azara used no scientific names; (2) in his two editions he used in most cases different common names for the same animal; (3) he described certain forms in the 'Apuntamientos' which were omitted from the 'Essais'; and (4) besides Paraguay his localities include Uruguay and the region well to the south of Buenos Aires.

The two authors<sup>3</sup> who applied binomials to Azara's descriptions used in every case the generic blanket-name *Mus* followed by a specific name, usually derived from Azara's local name. The intention of the present inquiry is (1) to compare the species of Azara's two works and (2) to attempt to ascertain where, in the modern system of genera, Azara's mice should be placed.

The following is a list of genera which occur, or may reasonably be inferred to occur, in the region worked by Azara:

Reithrodon Graomys Eligmodontia Hesperomys Holochilus Nectomys Scapteromys
Oryzomys
Œcomys ?
Rhipidomys
Akodon
Oxymycterus

<sup>&#</sup>x27;Essais sur l'Histoire Naturelle des Quadrupèdes de la Provincia du Paraguay,' II, Paris.
'Apuntamientos, para la Historia Natural de los Quadrupedos del Paraguay y Rio de la Plata,' Madrid.
'Desmarest worked only with the 'Essais' and his names in 'Nouveau Dict. d'Hist Nat.,' 1819,
XXIX, refer particularly to that work; Fischer named two species of the 'Apuntamientos' in his 'Synopsis Mammalium,' 1829.

For convenience I have considered Azara's rats in the order used in the 'Essais,' adding afterwards the three species which are described only in the 'Apuntamientos.' If full descriptions are desired, the original works must be consulted, but when any marked divergence is apparent in the descriptions, I have placed those parts of the French and Spanish versions in left and right parallel columns under each species. The colloquial names used by Azara are printed in small capitals.

## Mus cephalotes Desmarest

(Based upon the French Edition)

Name.—Rat seconde ou Rat a grosse No. XLVII.—Cola igual al cuerpo tête

Color.—Brown from muzzle to tail; sides of body and head brighter, with a touch of cinnamon

A mixture of dark and plumbeous, and the tips cinnamon brown. Fur quite long, 6-8 lines

The description of *cephalotes* in general, its 27 mm. hind foot, cinnamon-brown color, and tail equal in length to body, appear to fit the genus *Oryzomys* closely. *Holochilus*, the only other possibility, has the hind foot at least  $1\frac{1}{2}$  inches (38 mm.) in length.

## Mus angouya Desmarest

(Based upon the French Edition)

NAME.—RAT TROISIÈME OU ANGOUYA

COLOR.—Tarsus . . . olive . . . . . brownish (trigueño) . . . .

In angouya we are again no doubt dealing with Oryzomys. Azara himself doubted the distinctness of this form from cephalotes. While the animal is considerably larger in size than cephalotes, the 30 mm. hind foot again precludes its being a Holochilus. Its color was quite bright cinnamon.

## Mus auritus Desmarest

(Based upon the French Edition)

Name.—Rat quatrième ou Rat oreillard

PLACE.—Pampas, south of Buenos
Aires.

No. XLV.—OREJON

(p. 85). At 36° [about 100 miles south of city of Buenos Aires] I caught one with truncated tail. Note.—The Orejon was described from a larger specimen from 32½° [latitude of Entre Rios]. The measurements differ, but the descriptions tally fairly closely

I have previously concluded that auritus was a Reithrodon. Azara's description of its very large head, ears, and eyes, as well as its dimensions and coloration, seems conclusive.

#### Mus rufus Desmarest

(Based upon the French Edition)

NAME.—RAT CINQUIÈME OU RAT ROUX

PLACE.2

Pelage.<sup>2</sup> Color.<sup>2</sup>

No. XLIV.—Hocicudo

Taken (shot) in an arroyo at  $32\frac{1}{2}$ 

[latitude of Entre Rios]

Short, 5 lines on the back, rather rough. Very dark from nose to tail, but in the tips distinctly cinnamon. Sides of body and jaw and outer surfaces of limbs bright cinnamon. So also underparts, but more whitened

The following is taken from the description upon which *rufus* was based.

Collector.—My friend Noseda sent one in brandy, where it remained forgotten several months. The liquor had run out... (p. 96). I think these colors were rather altered by the brandy My friend Noseda caught one on the bank of a stream and sent it to me in spirit. I received it much disfigured but could not doubt it was the same species. . . .

In rufus we have apparently an Oxymycterus which had been kept in spirit and then dried out. If Azara was right in his assertion that Noseda's animal was the same species as that which he himself shot in the latitude of 32½° S. [Entre Rios], then rufus is a species with dark dorsal parts, bright cinnamon sides and limbs, and whitish underparts. No tarsal length was given. Azara, writing of the RAT ROUX, said (p. 94) that he had seen only the one which he was describing, and that "the muzzle did not appear so acute as that of the common rat"; whereas he named his Hocicudo "for the length and acuteness of the nose"; and had he not referred (p. 82) also to the specimen caught by Noseda, one would scarcely think them the same. The only possible alternative genera are Scapteromys and Holochilus, to neither of which, in my opinion, the description conforms.

## Mus nigripes Desmarest

(Based upon the French Edition)

NAME.—RAT SIXIÈME OU RAT A TARSE NOIR EAR.—(Description in part omitted) COLOR.—Tarsus . . . colored inky black No. XLIX.—Colilargo Full description As dark as ink beneath

<sup>&</sup>lt;sup>1</sup>Amer. Mus. Novit., 1932, No. 529. <sup>2</sup>This specimen, upon which "Hocicudo" was based, was not mentioned in the French edition.

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Nigripes appears to have been a small brown Oryzomys—possibly an Oligoryzomys—with tail slightly longer than body. The species should be identifiable.

#### Mus laucha Desmarest

(Based upon the French Edition)

NAME.—RAT SEPTIÈME OU LAUCHA
PLACE.—Two in garden at Buenos Aires
and one in pampas

MEASUREMENTS.—Total length 4"; tail  $1\frac{3}{4}$ ". . . . .

VIBRISSÆ.

Color.—Upper parts plumbeous as in common rat, but with some difference

Females.—I have a female 3¾" long and another 3" long

No. LI.—LAUCHA

All small mice are so named at Buenos Aires and Montevideo

Total length  $4\frac{3}{4}$ "; tail 2" . . . .

Very long

Upper parts mixed dark and cinnamon

In a female taken January 22, I found 6 embryos . . . .

The very small size of *laucha* indicates either *Hesperomys* or *Elig-modontia*. From the rather short tail I am inclined to choose *Hesperomys*.

The following three species were not included in the 'Essais' and consequently escaped the attention of Desmarest. In 1829, however, J. B. Fischer named two of them in his 'Synopsis Mammalium,' so that only one of all Azara's mice, the Colibreve, escaped being given a special scientific name. I give below a translation of portions of the descriptions:

#### No. LXVI.—Colibreve

. . . I have seen only the present one, which the dogs caught in the fields of Montevideo. . . . Length 6½ inches; tail 2¼ and appearing quite slender. . . . Tarsus 9 lines with the claw, and dark beneath. . . . All lower parts pearl-colored, the remainder dark, but the tips of the hairs are lighter and reduce the dark color.

This rat, to which neither Desmarest nor Fischer gave a name, appears referable either to Akodon or to young Oxymycterus. I am inclined to select Akodon as probably the genus, in which case it is in all likelihood referable to A. obscurus Waterhouse of Uruguay.

#### No. L.—AGRESTE [field mouse]

... two identical [specimens] in  $30\frac{1}{2}$ ° (latitude of Entre Rios) ... it is a field mouse. ... Length  $6\frac{1}{4}$  inches; tail  $2\frac{1}{8}$ . ... The tarsus measures 9 lines with claw and is whitish ... the pelage is 4 lines long and that of the head, upper parts and sides is mixed dark and cinnamon, the tips being of the latter color. In the under parts is a dull whitish which reaches a little on to the sides. Tail dark.

Fischer in 1829 (p. 325) applied the names Mus? (sic) azarx to the Agreste.

I am inclined to consider this description, which fits no other genus very closely, that of an Akodon.

#### No. LII.—Blanco debaxo

... I killed two identical [specimens] under two hides stretched in a garden at  $30\frac{1}{2}^{\circ}$  (latitude of Entre Rios) ... undoubtedly a field mouse ... I describe it with the former [laucha] before me ... length 5 inches; tail  $1\frac{1}{12}$  ... tail shorter than in the former [laucha] ... The fur is more appressed, soft, fine and short, white on the under parts, and the rest a mixture of dark and whitish, with less cinnamon than that mentioned; but on the sides white dominates. ... Tarsus 8 lines with claw, and white beneath.

Fischer in 1829 (p. 326) applied the name Mus ? (sic) dubius to the Blanco Debaxo.

This animal can scarcely be fitted into any genus except *Hesperomys* (in restricted sense). Azara himself compared it with *H. laucha* and among other contrasts noted its shorter tail. We may then write instead of *Mus dubius* Fischer. *Hesperomys dubius* (Fischer).

In my opinion Azara described 1 Reithrodon (auritus Desmarest), 2 Hesperomys (laucha Desmarest, dubius Fischer), 3 Oryzomys (cephalotes Desmarest, nigripes Desmarest and angouya Desmarest), 2 Akodon (Colibreve and azaræ Fischer), and 1 Oxymycterus (rufus Desmarest). When his descriptions are carefully checked against present-day concepts of these genera, there is little difficulty in most cases in determining to which genus a given description belongs. It is difficult to understand how he failed to obtain such large forms as Nectomys and Holochilus.

The general conclusions reached, based upon the foregoing discussion, may be set forth in tabular form:

'Essais'	'Early Scientific' Name	'Apuntamientos'	Probable Modern Genus
RAT SECONDE OU	Mus cephalotes	COLA IGUAL AL .	Oryzomys
Rat a grosse tête	Desmarest	CUERPO	
Rat Troisième où	Mus angouya	ANGUYA	Oryzomys
Angouya	Desmarest		
Rat quatrième	Mus auritus	Orejon	Reithrodon
OU OREILLARD	Desmarest		
Rat cinquième	Mus rufus	Hocicudo	Oxymycterus
ou Rat roux	Desmarest		
Rat sixième ou	Mus nigripes	Colilargo	Oryzomys
RAT A TARSE NOIR	Desmarest	•	
Rat septième ou	Mus laucha	LAUCHA	Hesperomys
LAUCHA	Desmarest	•	
		Colibreve	$m{Akcdon}$
	Mus azaræ Fischer	AGRESTE	Akodon
	Mus dutius Fischer	Blanco debaxo	Hesperomys

