Mammalian Species  No. 617, pp. 1–7, 4 figs.

Phyllotis xanthopygus.

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Published 5 May 1999 by the American Society of Mammalogists

Phyllotis Waterhouse, 1837

Phyllotis Waterhouse, 1837:28 (originally a subgenus of Mus; as a genus by Thomas, 1890). Type species Hesperomys (Phyllotis) darwini (Waterhouse, 1837:28), designated by Thomas, 1884:49.

CONCEPT AND CONTENT. Order Rodentia, Suborder Sciurognathi, Family Muridae, Subfamily Sigmodontinae, Tribe Phyllotitini, Genus Phyllotis. Steppan (1995) considered nine species to form a monophyletic group—caprinius, chilensis, darwini, definitis, haggardi, magister, osgoodi, osilae, and xanthopygus. He also retained in the genus andium, bonariensis, and wolfsohni, as well as amicus and gerbillus. However, Braun (1993) previously had reassigned the latter two to Paralomys. Musser and Carleton (1993) considered Paralomys as a synonym of Phyllotis. Their classification subsequently was supported by Steppan (1995, 1998), who found no support for the hypothesis that amicus and gerbillus form a monophyletic group; instead, he determined that amicus was related most closely to andium. Steppan (1998) reclassified P. chilensis as P. xanthopygus chilensis and assigned populations of P. xanthopygus rupestris along the Pacific coast to P. limatus. Thus, Phyllotis should include amicus, andium, bonariensis, caprinius, darwini, definitis, haggardi, gerbillus, limatus, magister, osgoodi, osilae, wolfsohni, and xanthopygus.

Phyllotis xanthopygus (Waterhouse, 1837)

Patagonian Leaf-eared Mouse

Mus (Phyllotis) xanthopygus Waterhouse, 1837:28. Type locality “Santa Cruz.” Restricted to Santa Cruz, Santa Cruz Province, Argentina, by Pearson (1958:420) and Hershkovitz (1962:327).

Mus rupestris Gervais, 1841:51. Type locality originally given as “un trou de rocher des haute montagnes de Colbia.” Osgood (1943:207) noted that “Colbia (formerly included in Bolivia) is on the west side of the Andes between Antioquia and Tocopilla.”

Mus capito Philippi, 1860:159. Type locality “Huaso parado,” Chile, in the present range of P. x. rupestris. Name procured by Mus. capito Ollers, 1818, an Erinaceus according to Hershkovitz (1962:303).


Phyllotis darwini posticinis Thomas, 1912:406. Type locality “Gila, W. of Onuya, Department of Junin, Peru. Alt. 4,800 m.”

Phyllotis darwini vaccarum Thomas, 1912:408. Type locality “Las Vacas, Argentine slope of Cordillera opposite Mendoza. Alt. 2,500 m,” Mendoza Province, Argentina.

Phyllotis ricardulus Thomas, 1919:493. Type locality “Otto Cerro,” North-eastern Rioja, 45 km W Chumbicha, “Rioja” (= Catamarca), 3,000 m, Argentina. Although Hershkovitz (1962:304) listed ricardulus as a subspecies of P. darwini, he stated (p. 311) that “Clearly, ricardulus is nothing more than part of the clade leading from smaller rupestris to larger vaccarum.”


CONCEPT AND CONTENT. Context same as for genus. The taxonomic history of P. xanthopygus has been intertwined with that of P. darwini. For example, populations of xanthopygus were assigned to darwini at the species level as recently as 1992 (Redford and Eisenberg, 1992). Recent work on South American mammals (Anderson, 1997; Monjeau et al., 1994; Steppan, 1995) generally follows Spotorno and Walker (1983) and Walker et al. (1984), who presented substantial chromosomal evidence supporting recognition of the two as distinct species. Following Steppan (1998), we consider Phyllotis xanthopygus to be comprised of six subspecies:

P. x. chilensis Mann, 1945:84. See above.


P. x. ricardulus Thomas, 1919:493. See above.

P. x. rupestris (Gervais, 1841:51). See above. Includes arenarius, capito, glirinus, and lanatus as synonyms.

P. x. vaccarum Thomas, 1912:408. See above. Includes origenes and wolfsohngeli as synonyms.

P. x. xanthopygus (Waterhouse, 1837:28). See above.

DIAGNOSIS. The sympatric genera we consider most likely to be confused with Phyllotis xanthopygus (Fig. 1) are Alluiscymys, Graomys, and Loxodontomys. We follow Steppan (1995) in returning Maresomys boliviensis (Braun, 1993) to the genus Alluiscymys. Relative to Alluiscymys and Loxodontomys, Phyllotis has a distinctly pinicillate tip on the tail that is lacking in the other two genera. When viewed from above, the outer margins of the pygomatic arches are convex in Alluiscymys pictus, whereas they are convex in Alluiscymys pictus.

FIG. 1. Adult Phyllotis xanthopygus from Arroyo La Fragua, Rio Negro Province, Argentina. Photograph by Jan Decker.
**Graomys.** Graomys has a tail as long or longer than combined head and body length, whereas the tail of Phyllostis usually is less than the combined length of head and body (Hershkovitz, 1962). The orbital margin of the frontal bone forms a sharp edge in Graomys and is posteriorly divergent, whereas this margin is rounded and not markedly divergent in Phyllostis.

The eastern edge of the range of Phyllostis darwini meets the western edge of the range of Phyllostis xanthopygus in Chile. Although the two are quite similar in external appearance and their taxonomic histories are convoluted, karotypic data as well as morphometric differences support specific recognition for each (Spotorno and Walker, 1983; Steppan, 1995). Identification of specimens based only on morphological characters remains troublesome, and we know of no single diagnostic morphological character for distinguishing the two species. Nevertheless, Spotorno and Walker (1983) separated specimens of *P. xanthopygus vaccaorum* and *P. darwini* using discriminant function analysis of a suite of 18 body and cranial characters.

Based on molecular and morphological data, Pacific populations of *P. xanthopygus rupestris* were reassigned to *P. limatus* by Steppan (1998). *P. xanthopygus rupestris* reportedly has deep, narrow incisors, whereas *P. limatus* has wide, shallow incisors. Additionally, individuals of *P. limatus* tend to have relatively longer tails (115% of body length versus ≤105% for *P. rupestris*) that often are white-tipped (Steppan, 1998). A key to species occurring in Bolivia was provided by Anderson (1997).

**GENERAL CHARACTERS.** Specimens from Río Negro, Chubut, and Santa Cruz provinces, Argentina, trapped in March and April were examined to provide the following description. *Phyllostis xanthopygus* is a mouse of large size (body mass of adults ca. 55 g) with large ears (length ca. 27 mm) and a tail close to the length of the head and body. The overall color is grayish brown with a faint buff or pale fulvous wash that is most prominent on the rump near the base of the tail in adults. The pelage is long and soft with gray bases and yellow to brown guard hairs that sometimes are black-tipped, especially along the dorsum. The chin, throat, and venter typically are light tan to pale buff with plumbeous underfur. The ears are lightly pigmented and sparsely furred in living individuals, but appear similar in color to the dorsum in museum specimens. Skin pigmentation and hair coloration on the tail are dark above and nearly white below, giving the tail a sharply bicolor appearance. The feet are covered by short, nearly white hairs and the soles are mostly naked with short, light-colored fur on the heel.

Seasonal variation in pelage characteristics of animals obtained in Santa Cruz, Argentina, was described by Allen (1905). He observed that adults trapped from February to April had thinner and darker pelage than those trapped in November. Young adults trapped in March and April had dark gray fur along the back changing to a more fulvous color on the lower sides (sometimes forming a distinct lateral band) and a still lighter-colored venter. Ventral color varied from faint buffy to strong buffy in the pectoral region during the same time period. Thomas (1884) reported two pairs each of pectoral and inguinal mammae.

The following list of cranial characteristics was taken from descriptions of subspecies (Hershkovitz, 1962) now recognized as *Phyllostis xanthopygus*: moderately inflated auditory bullae; length of the auditory bullar minus tubus is usually less than alveolar length of molar row; bullar tubes usually short; mesopterygoid fossa measured at base of hamular processes usually less than the width of, but sometimes as wide as, parapterygoid fossa measured on the same plane; proximal ends of nasals pointed to truncate; and alveolar length of molar toothrow 15–20% of greatest length of skull. Kelt (1994) provided comments on additional cranial characters of *P. xanthopygus* as follows: M2 larger than M3; terminal end of palatal lies posterior to anterior end of toothrow; and posterior margins of incisive foramina are posterior to the anterior edge of the toothrow. Thomas (1884) noted five interdigital ridges on the soft palate.

**Means** (± SD) for skull characters (in mm; n = 20) of *P. xanthopygus* from the Aisén region, Chile, (Kelt, 1994) are as follows: total length, 241.6 (15.0); tail length, 120.4 (7.7); hind foot length, 29.2 (1.0); ear length, 25.4 (1.1); greatest length of skull, 31.4 (1.0); length of nasal bone, 13.2 (0.6); length of maxillary diastema, 7.8 (0.5); length of maxillary toothrow, 5.5 (0.1); length of palate, 13.8 (0.6); breadth across rostrum, 4.3 (0.2); breadth

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**FIG. 2.** Dorsal, ventral, and lateral views of the skull and dorsal and lateral views of the mandible of *Phyllostis xanthopygus* from Chubut Province, Argentina (female, Bell Museum of Natural History, MMNH 16205). Greatest length of skull is 31.16 mm. Photographs by Jan Decker.
across braincase, 13.8 (0.3); breadth across zygomatic arches, 16.0 (0.6); width of incisors, 2.8 (0.2); length of mandibular diastema, 3.4 (0.3); length of mandibular toothrow, 5.7 (0.2); greatest length of mandible, 16.8 (0.7); mandibular depth, 5.5 (0.3); and length of coronoid process, 1.3 (0.1). Mean body mass was 57.6 (10.9) g. Detailed descriptions of all six subspecies (considered at the time to be subspecies of *P. darwini*) are provided by Pearson (1958).

**DISTRIBUTION.** *Phyllotis xanthopygus* occurs in and along the Andes from southern Peru into Patagonia from ca. 15°S to 51°S (Fig. 5). Habitats include grasslands and desert regions at altitudes ranging from sea level to 5,600 m. De Fontolla et al. (1989) and Halloy (1991) recorded *P. rupestris* at 5,570 m on the border between Chile and Argentina (24°S, 68°W) where steam vents and warm vapor from volcanic activity warned the immediate vicinity (Halloy, 1991).

*Phyllotis xanthopygus* shares localities of sympathy with seven of its congeners and its range borders that of two additional congeners. In the northwestern part of its range, in Peru, *P. xanthopygus* is sympatric with *P. andium* and *P. amicus* (Steppan, 1998). Farther south, *P. xanthopygus* shares the western portion of its range in northernmost Chile and into Peru with *P. magister* (Steppan, 1998). Sympathy with *P. osogoodi* is known for a small area in northernmost Chile (Pearson, 1958; Steppan, 1998). The eastern portion of its range is shared as follows: with *P. otilae* in Argentina, Bolivia, and Peru; with *P. robusta* in Bolivia and Argentina (Steppan, 1998). Western portions of the range of *P. xanthopygus* border that of *P. darwini* in Chile from ca. 30°–35°S and that of *P. limatus* in western Peru (Steppan, 1998).

In the southern and western portions of the species distribution, *P. x. chilensis* intergrades with *P. x. rupestris*. The two subspecies likely intergrade along the Bolivian plateau as well (Pearson, 1958). Pearson (1958) reported an extensive contact zone between these two subspecies in the Peruvian departments of Arequipa, Moquegua, and Tacna. In the western part of the distribution, *P. x. vaccarum* intergrades with *P. x. xanthopygus* to the south and with *P. x. rupestris* to the north and northeast (Pearson, 1958). In central Chile, *P. darwini* occurs at the coast and in the central valley with *P. xanthopygus* vaccarum occupying mountain tops at altitudes ≥2,000 m (Spotorno and Walker, 1983).

**FOSSIL RECORD.** Fossils of *Benisonymys* from the late Hemphillian White Cone fauna of Arizona, dated 6–8 × 10⁶ years ago (Baskin, 1978), appear to be the oldest known representatives of the subfamily Sigmodontinae. The earliest South American records of Sigmodontinae are from the Montebomarosian Land Mammal Age (mid to upper Pliocene, 4 × 10⁶ years ago—Reig, 1976). Members of the tribe Phyllotini (*Aulstrocomys, Rithrodon,* and *Gauromys*) were already present in southern Argentina during the lower and upper Pliocene (Mares, 1985). Because *Gauromys*, a possible offshoot of *Phyllotis*, was present in the Monte-Patagonian-Chacuan area during the late Pliocene, it is likely that *Phyllotis* occupied the rocky fringes of the deserts during this period (Mares, 1985). Specimens of the genus *Phyllotis* have been found in Bolivia in the basins of Tarija, Concepción (= Uriondo), and Pocaya and were dated at 0.7–0.97 × 10⁶ years ago and 0.2–0.25 × 10⁶ years ago by different methods (Hoffstetter, 1986; Pardiñas and Galliari, 1998). Fossils of the genus also have been found in Argentina in Bajo San Jose and Bahia Blanca (Buenos Aires Province) in Eocene beds from the middle to lower Pleistocene, and in Camet (Mar del Plata, Buenos Aires Province—Pardiñas and Deschamps, 1996). Fossils of *Phyllotis* dated at 20,000–16,000 B.C. (Lujanian/Holocene) are abundant in the Ayacucho area (Pikimachay Cave) in the central Andes of Peru (Hoffstetter, 1986), and fossils from the Lujanian Age, tentatively identified as *Phyllotis*, have been found in Talera (Purra, Peru—Lemon and Churcher, 1961; Marshall et al., 1984). Representatives of the genus also were found in the San Andrés Formation, Buenos Aires Province, from the Uquian Land Mammal Age, Pleistocene (Quintana, 1994). In Argentina, specimens of *Phyllotis* cf. *xanthopygus* from the Holocene were found in Río Negro Province (dated at 3,230 ± 60 to 1,370 ± 60 years ago), Neuquén Province (9,370–320 years ago), and in Buenos Aires Province from the upper Holocene (Cenitene, General Alvarado—Pardiñas, 1995). *P. xanthopygus* specimens also have been found in numerous archaeological sites in Patagonia from 12,000 years ago to present (Pardiñas and Deschamps, 1996). The origin of the genus *Phyllotis* is unclear. Fossil comparisons, host-parasite distribution, and perine morphology indicate that South American sigmodontines might be related more closely to certain Old World murids than to North American neotomine-peromyscines (Jacobs and Lindsay, 1984). However, this conclusion was based primarily upon the identification of fossil specimens of *Benisonymys,* then considered to be a subgenus of *Calomys,* then considered to be a subgenus of *Calomys* (Steppan, 1995) argued that certain characteristics of the teeth in these fossils are present but not in extant *Calomys* or in other phyllotines; thus, these fossils should not be assigned to *Calomys.* Furthermore, only characters of the molars and mandible were visible in the fossils. Steppean (1995) found that dental characters were not particularly informative for determination of relationships at the subfamily level. Thus, the conclusion that phyllotines might be more closely related Old World murids than to North American neotomine-peromyscines seems unwarranted.

In a study of a 10,000-year accumulation of owl pellets in a cave in Trafal Valley, Neuquén Province, Argentina, Pearson (1987) found that remains of *Phyllotis* generally were present at a frequency <5%. A notable exception was the period from ca. 5,000–2,500 years ago when an increase of ca. 25% in the frequency of *Phyllotis* was observed. It is likely that *Phyllotis* produced the deposits of solidified urine present in caves near Confluencia Trafal, Neuquén Province, Argentina, dating from 3,610 to 4,357 years ago (Pearson and Christie, 1993).
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FORM AND FUNCTION. Although detailed studies of the internal morphology of Phyllotis xanthopus are few in number, P. x. reaperita (ca. 25,000 trap nights) has highly developed olfactory structures (Mann, 1945). Mann also noted that mice of this subspecies have a long colon and well-developed cecum that aids in fermenting cellulose. P. xanthopus also is characterized by semi-determinate growth as individuals continue to grow as adults before bone length reaches an asymptote (Steppan, 1997).

Although the phyllotine rodents show considerable diversity in glans morphology, all eight taxa examined by Hooper and Musser (1964), including Phyllotis darwini (P. xanthopus not examined), share the following characteristics: exterior spines moderate in size and shape, bacillary group without tubercles, urethra longer than wide, robust baculum with a ventrally concave base, and distal part of the shaft laterally compressed. Spotorno (1986) reported that the phallicus of P. x. xanthopus is barrel shaped, slightly elongated, has well-defined craters, well-developed distal processes, a central digit slightly longer than the lateral digits, and lateral digits with wide, pointed hooks. Proximally, the baculum is short with a wide base, a median notch, and lateral basilar condyles (Spotorno, 1986).

The lower limit of the thermoneutral zone of P. x. reaperita at ambient temperatures from 0 to 32.5°C is ca. 28°C (Bozinovic and Marquet, 1991). Basal metabolic rate was 1.26 ± 0.21 ml O2 g⁻¹ h⁻¹, and the mean body temperature was 37.1 ± 1°C (Bozinovic and Marquet, 1991). Bozinovic and Rosenmann (1988) reported a basal metabolic rate of 1.03 ± 0.08 ml O2 g⁻¹ h⁻¹ for mice of this subspecies. They also reported that thermal conductance averaged 0.123 ml O2 g⁻¹ h⁻¹ °C, body temperature averaged 37.3 ± 0.9°C, and metabolic rate increased linearly with decreasing temperature at temperatures <28.5°C. Bozinovic and Marquet (1991) induced torpor in P. x. reaperita by depriving animals maintained at either 12.5 or 20°C of food for 2 days.

ECOLOGY. Phyllotis xanthopus is found in fields of basaltic boulders, rock piles created by erosion, and top rims of volcanic hills (Fig. 4). In 2,460 trap nights in Rio Negro, Chubut, and Santa Cruz provinces, Argentina, Kim et al. (1996) captured only four specimens of P. xanthopus >100 m from rocky areas and interpreted these to be dispersing individuals. Monjeau et al. (1989) reported no captures outside of rocky areas in a review of 263 trap sites (P. x. reaperita) in nearly every olfactory set:et (Mann, 1945). Mann also noted that mice of this subspecies have a long colon and well-developed cecum that aids in fermenting cellulose. P. xanthopus also is characterized by semi-determinate growth as individuals continue to grow as adults before bone length reaches an asymptote (Steppan, 1997). Competition with Akodon andinus appears to limit occupation of shrubby areas by Phyllotis along the Andes in central Chile. When A. andinus was removed from shrubby areas, captures of P. xanthopus increased markedly, and when P. xanthopus was removed from rocky areas, captures of A. andinus increased (Si-monetti et al., 1985). Herskovits (1962) noted that the range of P. x. reaperita included xerophytic scrub, grassland, and puna. Osgood (1943) reported that P. x. xanthopus lived in open pampa or low brush along waterways but did not appear to extend far into the mountains in the west.

Phyllotis xanthopus has been described as a frugivore and granivore (Bozinovic and Rosenmann, 1988) and as a full herbivore (Monjeau, 1989), but others have observed high levels of insectivory (Mann, 1944; Pizzimenti and de Salle, 1980). Some variation in diet has been reported among subspecies. P. x. reaperita shows less variation in diet than P. x. chilenis; the diet of P. x. reaperita included fewer total items, fewer items per locality, and a single species (not named) of forbb comprised 25% of its diet (Pizzimenti and de Salle, 1980). In contrast, P. x. chilenis did not concentrate on any one item throughout its range, but populations sometimes shifted to dietary extremes. At one site P. x. chilenis fed exclusively on leafy vegetation, and at another site it fed mostly on insects. Diet composition of P. x. reaperita sampled at seven different sites was 2% grass, 39% forb, 4% seed, and 54% insect; whereas that of P. x. chilenis sampled at sixteen different sites was 15% grass, 37% forb, 13% seed, and 35% insect (Pizzimenti and de Salle, 1980). P. x. reaperita showed increased insectivory at higher altitudes and in the presence of two potential competitors. Pizzimenti and de Salle (1980) noted that females consumed 18–22% more insects than did males.

Population levels of Phyllotis apparently increase after volcanic eruptions. Sixteen months after the eruption of Volcán Hudson, at a site 130 km SE of the volcano, P. xanthopus was much more numerous than expected given the absence of cliffs or rocky habitat, and the population consisted of a higher proportion of young individuals than in previous years (Pearson, 1994). Saha and de Lamo (1994) found that the increase in P. xanthopus after the eruption was correlated with vegetation recovery. Of 11 animals examined, all were in reproductive condition and in good health.

Little information is available on the population structure of P. xanthopus. Kelt (1994) reported that in March most animals trapped were young, nonreproductive individuals. In November and December, five of seven males trapped had descended testes (Kelt, 1994). Parous females were trapped in November, February, and March, whereas pregnant females were obtained in November, December, and February (Kelt, 1994). By March and April, most females collected were either young, nulliparous individuals or larger lactating individuals (Kelt, 1994).

Mammals that are potential predators of P. xanthopus include: Lestodelphys, Lycalopex, Lycodon, Conopatus, Galictis, Oncifelis, Puma, and Mustela. Owls of the genera Tyto, Bubo, and Athene undubtably prey on this mouse as well. Birney et al. (1996) trapped P. xanthopus along with the highly carnivorous marsupial Lestodelphys halli at two localities in Argentina; thus we consider this didepholid to be a likely predator of young and perhaps even adult P. xanthopus.

Jaksic and Simonetti (1987) observed that escape behavior is seen more often in response to siloettes of large rather than small raptors. They also noted that tail "autotomy" has been observed in this species and suggested this might be an adaptation to escape predation (Jaksic and Simonetti, 1987).

The following Speonanones were obtained from P. xanthopus: Plocopollaga chirs (Jameson and Fulck, 1977), Plocopollaga achilles (Hershkovitz, 1962), Neotrophlocera crassispina chilenis (Jameson and Fulck, 1977), Delostichus phyllostis (Jameson and Fulck, 1977), Tetrarhopus melops (Hershkovitz, 1962), Plocopollaga solida (Hershkovitz, 1962), Spinitropsidengera indica (Hershkovitz, 1962), Tamastus subtilis (Hershkovitz, 1962), Cranepolymellina minervina wolffugeli (Hershkovitz, 1962). One anophran, Hoplopleura affinis, was recorded from P. xanthopus (Hershkovitz, 1962). Acarins identified include Parasacca argentinensis (Goff and Gettinger, 1992), Andalgaliunium and Pseudopsylla (Goff and Gettinger, 1992), and Ornithodoros (Hershkovitz, 1962). Only one endoparasite, Tae sia taeniformis, has been recorded from P. xanthopus (Cu-bilos et al., 1991).
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BEHAVIOR. Only scant information is available on the behavior of this species. Field investigations indicate the species is inactive during the daylight hours, and we suppose that activity is strongly related to avoidance of predators. Laboratory studies have shown that although they tend to be nocturnal, exposure to light intensities even half that of full moonlight during their dark period shifts activity from a strictly nocturnal schedule to activity bouts throughout a 24-hour period (Kramer, 1996). Kramer (1996) also found that males become active earlier in the evening than females and that their peak in activity occurs ca. 45 min before that of females.

GENETICS. A karyotype consisting of 68 acrocentric autosomes (2n = 70) appears to be ancestral for the tribe Phyllotini (Pearson and Patton, 1976). Within Phyllotis, the number of autosomes seems to have changed from 68 (now observed only in P. ocellata) to 36 as presently observed for P. xanthopus, P. darwini, and closely related species (Pearson and Patton, 1976). Both sex chromosomes in P. x. xanthopus are larger than sex chromosomes in P. x. vaccarum and P. x. rupestris, and the Y chromosome and the terminal segments of the long arm of the X chromosome of P. x. xanthopus are slightly heterochromatic.

Subspecific differences exist in chromosomal banding patterns of P. xanthopus. Walker et al. (1991) reported that although most chromosomes of P. x. xanthopus (n = 2) have tiny pericentric C-bands, this band was large in one member of chromosomal pair 15. P. x. rupestris (n = 2) has large pericentric C-bands in all autosomes and in the X chromosomes. In contrast, G-banding patterns of autosomes are similar in P. x. xanthopus, P. x. vaccarum (n = 2), and P. x. xanthopus except that the terminal region of the long arm of the X chromosome of P. x. xanthopus has a few well-differentiated G-bands that were not seen in the other subspecies (Walker et al., 1991).

Walker and González-Providel (1995) found that pericentric regions of the chromosomes of these three subspecies differ in their GGGC content and suggested that these differences might be correlated to ancestral and derived conditions. They also reported significantly larger genomes for P. x. rupestris and P. x. vaccarum relative to P. x. xanthopus. P. x. rupestris and P. x. vaccarum also were found to have defined pericentric bands on the autosomes and on the X chromosome, which are lacking in P. x. xanthopus. These bands are larger in P. x. vaccarum than in P. x. rupestris. Finally, Walker and González-Providel (1995) found that Hinf I recognition sites were rare or nonexistent in P. x. xanthopus but frequent in the heterochromatin of some chromosomes of P. x. vaccarum and P. x. rupestris.

Phylogeographic analyses of mitochondrial DNA sequences (mtDNA) from P. xanthopus trapped in southern Argentina reveal two distinct haplotype clusters, one of which was found only in populations presently occurring north of Rio Chubut (Kim et al., 1996). The existence of two relatively deep clades suggested to the authors that the distribution of this species probably was separated by some event or barrier, perhaps early in the Pleistocene.

Kim et al. (1996) reported considerable variation in mtDNA haplotypes both within and between localities from both large and small populations of P. x. xanthopus. Although P. xanthopus occurs in rocky outcrops that were hypothesized to act as habitat islands, no evidence of genetic isolation of local populations was detected. Instead, it is likely that the smaller islands of rocky habitat act as sinks because resources there are highly variable, and although dispersal rates seemingly are high, predominant matrilinea generally are absent from at least the smaller islands.

REMARKS. Phyllotis xanthopus vaccarum was separated taxonomically from P. d. darwini by Spornoto and Walker (1983) based on chromosomal differences. Few studies have been published on the ecology, physiology, or behavior of P. xanthopus, but pertinent information on P. d. darwini is available (Agüero and Simoniatti, 1980; 1984; Fuentes and Campussano, 1985; Jakse et al., 1992; Jiménez et al., 1992; Mares, 1977; Meserve and Glanz, 1978; Pearson, 1973; Péfáur et al., 1979).

The generic name, Phyllotis, is derived from the Greek root phyll- meaning leaf. The species epithet, xanthopus, is derived from the Greek roots xanth- and pyg-, meaning yellow and rump, respectively. Woodman (1993) argued that the species name should be changed to “xanthophagus” because the generic name, Phyllotis, is derived from a Greek, feminine noun. Pritchard (1994) pointed out that “Phyllotis is a latinized Greek word and in Latin -is is feminine, masculine or neuter, and therefore ‘xanthophagus’ should be retained.” The vernacular name we have adopted for P. xanthopus, “Pericote orejudo andino-patagónico,” refers to its distribution along the Andean mountains and the Patagonian semideserts.

We thank J. Decher for taking photographs of the live animal and skull. S. J. Steppan contributed to this account in many ways, generously sharing insights and making helpful comments in addition to providing the distribution map.

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Editors of this account were ELAINE ANDERSON and LESLIE N. CARRAWAY. Managing editor was BARBARA H. BLAKE.

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