

*Oreailurus jacobita*. By Eric Yensen and Kevin L. Seymour

Published 12 May 2000 by the American Society of Mammalogists

***Oreailurus* Cabrera, 1940**

*Oreailurus* Cabrera, 1940:16. Type species *Felis jacobita* Cornalia, 1865, by original designation.

*Colocolo* Pocock 1941:269. Type species *Felis colocola* Molina, 1782. Junior synonym.

*Montifelis* Schwangart 1941:39. Type species *Felis jacobita* Cornalia, 1865. Junior synonym.

**CONTEXT AND CONTENT.** Order Carnivora, family Felidae, subfamily Felinae. *Oreailurus* is monotypic. Although Cabrera (1940) originally described *Oreailurus* as a genus, he later relegated it to the rank of subgenus within the genus *Felis* (Cabrera, 1957). Salles (1992) presented a number of cladograms that summarize different opinions concerning taxonomy of Felidae.

***Oreailurus jacobita* (Cornalia, 1865)**

Andean Mountain Cat

*Felis jacobita* Cornalia, 1865:5. Type locality “Bolivia, circa Potosi et Humacuaca in montibus sat elevatis,” restricted by Cabrera (1957:297) to “Sur del departamento boliviano de Potosí, cerca de la frontera argentina, entre Potosí y Humahuaca.”

*Felis (Lynchailurus) colocola neumayeri* Matschie, 1912:259. Type locality “Rio das Mortes, Matto Grasso, Brazil.”

*Oreailurus jacobita*, Cabrera, 1940. First use of present name combination.

**CONTEXT AND CONTENT.** Content as for genus. No subspecies are recognized. *Oreailurus jacobita* is known from four skulls, 33 museum skins (Seymour, 1999), and 2 skins in the Colección Boliviana de Fauna, La Paz, Bolivia (Yensen, in litt.). The type specimen was destroyed during World War II (Cagnolaro, 1976). The skull discussed by Philippi (1873) and the skins discussed by Osgood (1943) and Schwangart (1941) have been lost.

**DIAGNOSIS.** *Oreailurus jacobita* (Fig. 1) is most similar to pampas cats, *Lynchailurus*, and occurs sympatrically with them in the high Andes (García-Perea, 1994). *O. jacobita* has a long, non-tapering tail (60–75% length of head and body), with six to nine distinct, broad rings, whereas *Lynchailurus* has a much shorter, tapering tail (ca. 30% length of head and body) with fewer, narrower, often less distinct or incomplete rings. Bars on shoulders, chest, hindlegs, and forelegs of *O. jacobita* are dark brown, but less distinct than the very prominent, black bars of *Lynchailurus*. Ground color of *O. jacobita* is ash-gray with isolated, irregular, hazel or orange-brown spots oriented roughly vertically on the body, in contrast to all other South American cats. *Lynchailurus* usually is yellow or brown, except in the high Andes where the ground color is frequently gray, and any markings are oriented transversely across the body. Pelt of *O. jacobita* is much thicker and fluffier than that of *Lynchailurus* or any other South American cat (Cabrera, 1961; Cornalia, 1865; Pearson, 1957) and resembles that of *Lynx* (Cornalia, 1865). *Lynchailurus* has a crest of long hairs along the spine from shoulders to rump and transverse dark stripes on the throat (García-Perea, 1994), both of which are lacking in *O. jacobita*. In *O. jacobita*, ears are rounded, whereas they are narrowed and subangular in *Lynchailurus*.

Skulls of South American small cats are very similar among species, yet highly variable within species. Features that differentiate the four known skulls of *O. jacobita* (Fig. 2) from *Lynchailurus* are as follows (Seymour, 1999): subarcuate fossa (Salles, 1992) shallow to moderately deep but never as deep as *Lynchailurus*; no lingual grooves on upper canine, lower canine, or P3 (all are present in *Lynchailurus*); ectotympanic portion comprising >50% of volume of auditory bulla (usually <50% in *Lynchailurus*); auditory

bulla with an obvious sulcus separating ectotympanic (anterior) and entotympanic (posterior) portions (sulcus usually not well developed in *Lynchailurus*); and anterior portion of P3 turned lingually (P3 in line with P4 in *Lynchailurus*). In lateral view, bullae do not project ventrally below occipital condyles, as in *Lynchailurus* (Pocock, 1941). Nasals are broad and have comparatively straight sides, in contrast to *Lynchailurus*, 90% of which have posterior portion of nasals abruptly narrowed (Seymour, 1999).

Adult pumas (*Puma concolor*) and jaguarundis (*Herpailurus yagouaroundi*) are uniformly colored. Geoffroy's cats (*Oncifelis geoffroyi*) are smaller and have a pattern of small black flecks on a whitish or yellowish background. Kodkods (*On. guigna*) are similar to Geoffroy's cats, but smaller with a darker yellowish background color and a shorter tail. Ocelots (*Leopardus pardalis*), margays (*L. weidii*), and oncillas (*On. tigrina*) have yellow or orange spots outlined in black and arranged in diagonal linear series on the body.

**GENERAL CHARACTERS.** Body color is pale silver or ash-gray with isolated, irregular, hazel or orange-brown spots. Spots tend to be in vertical lines on the body, form transverse bands across the back, and become smaller ventrally (Cabrera, 1940; Cornalia, 1865; Pocock, 1941). Nose and lips are black, but areas around lips, eyes, and sides of face are white. A diagonal dark streak runs posteriorly from nose to mouth, and a dark streak starts behind each eye and unites with the lower streak behind the cheek (Cabrera, 1961; Kuhn, 1972). Top of head is medium gray with darker streaks. Two faint middorsal stripes occur on neck, and three occur on forehead (Redford and Eisenberg, 1992). A dark, narrow streak with black-tipped, 50-mm-long guard hairs is present on the back of one individual (Greer, 1965). One dark brown bar runs across chest and another across upper forelegs. Ventrums are white (Weigel, 1975) or whitish with orange spots. Guard hairs are gray at base with a white subterminal band and a black tip. Dorsal pelage is 40–45 mm long. Vibrissae are either white or black (Cornalia, 1865). Feet are covered with hair down to the pads (Cabrera, 1940). Tail has seven (six to nine) broad (≤40-mm), dark brown rings and hairs on tail are all ca. 40 mm long (Burmeister, 1879; Cornalia, 1865; Greer, 1965). Tip of tail may be whitish in some individuals (Cabrera, 1940; Cornalia, 1865).

Contrary to Salles (1992), upper and lower canines lack lingual grooves (Seymour, 1999). The enlarged ectotympanic chamber was considered diagnostic (Kuhn, 1972; Scrocchi and Halloy,



FIG. 1. *Oreailurus jacobita*, Sala de Surire National Park, Chile. Photograph by G. Ziesler.

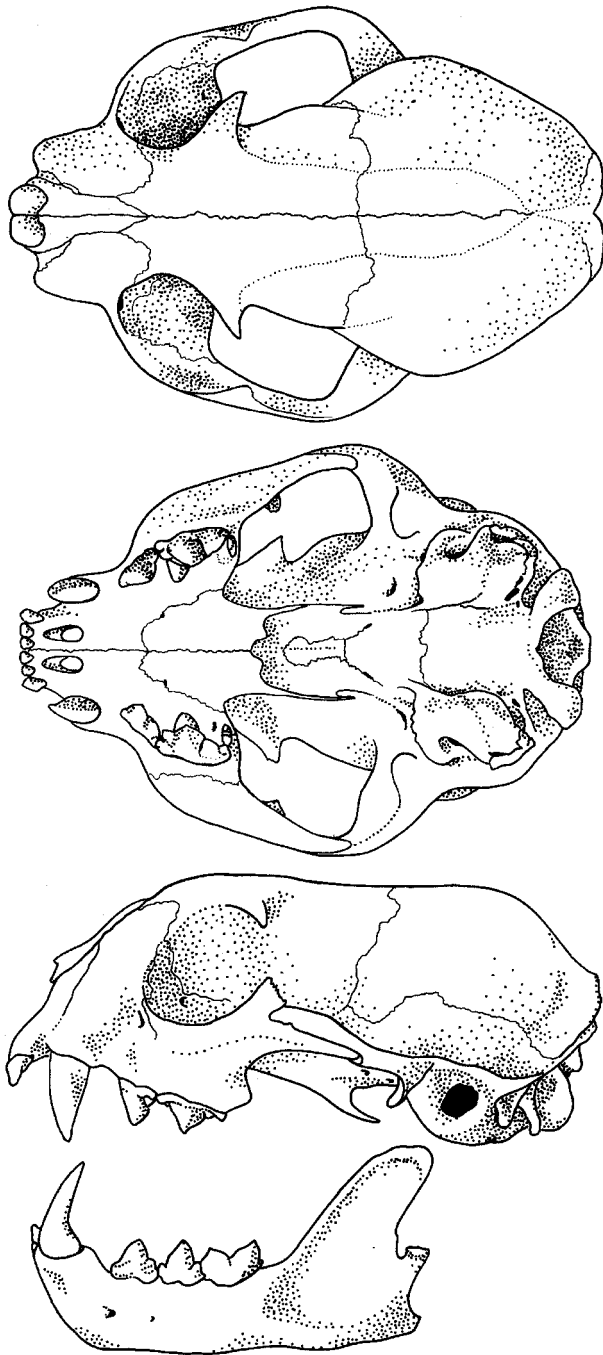


FIG. 2. Dorsal, ventral, and lateral views of the cranium and lateral view of mandible of *Oreailurus jacobita* (Museum of Vertebrate Zoology, Berkeley, California [MVZ] 116317) from 57 mi [91 km] ENE Arequipa, Arequipa Department, Peru. Condylobasal length of skull is 95.6 mm. Drawings by M. Dickson.

1986), but some *Lynchailurus* may develop a similarly expanded ectotympanic (García-Perea, 1994; Seymour, 1999). Pearson (1957) noted that the sulcus between ectotympanic and entotympanic portions of the auditory bulla may not always be as deep as illustrated by Philippi (1873); sulcus appears best developed in old individuals (Seymour, 1999). Some *Lynchailurus* and a few *On. guigna*, *On. tigrina*, and *On. geoffroyi* may possess a similarly developed sulcus (Seymour, 1999). The inwardly turned P3 was first noted by Pearson (1957) and all four skulls examined by us have this feature. Orbits are relatively large, and nasals are depressed at the base, resulting in a comparatively long muzzle (Cabrera, 1940; Pocock, 1941), and giving the skull a flat-headed

appearance. The muzzle, which has anteriorly convergent sides, is slightly elongated, placing the postorbital processes closer to the middle of the skull, rather than in a more anterior position. Zygomatic arches are relatively parallel (Cabrera, 1940; Philippi, 1873). Philippi (1873:plate III) illustrated skulls of *O. jacobita* (figures 1 and 2; *L. colocolo*, figures 3 and 4). Philippi's specimen of *O. jacobita* is now missing, and may have been atypical because of its elongated muzzle and exaggerated bullar sulcus (Pearson, 1957; Pocock, 1941; Seymour, 1999).

Dental formula is  $i\ 3/3$ ,  $c\ 1/1$ ,  $p\ 2/2$ ,  $m\ 1/1$ , total 28; deciduous dental formula is unknown. P1 is missing in all felids. P2 was missing in the two skulls examined by Cabrera (1961) but he was not certain if this was individual variation or a species characteristic. Two additional skulls also lack P2 (Yensen and Seymour, in litt.). P2 might be present in some *O. jacobita* because several other South American small cats are polymorphic for this feature (Seymour, 1999).

Mean external measurements (in mm with parenthetical ranges) are as follows: length of head and body, 661 (577–850,  $n = 5$ ); length of tail, 443 (410–480,  $n = 5$ ); length of hind foot, 119 (110–133,  $n = 3$ ); and length of ear, 58 (53–63,  $n = 2$ —Cabrera, 1961; Cornalia, 1865; Matschie, 1912; Pearson, 1957; Pine et al., 1979). Lengths of ears of a tanned skin were 45 and 48 mm (Greer, 1965). An adult male from Peru weighed 4.0 kg (Pearson, 1957). Mean skull measurements (in mm with parenthetical ranges) are as follows: condylobasal length, 96.1 (94.6–98.2,  $n = 3$ ); zygomatic breadth, 71.3 (69.3–73.0,  $n = 3$ ); interorbital breadth, 22.6 (21.0–23.8,  $n = 3$ ); width across postorbital processes, 45.4 (41.8–48.1,  $n = 3$ ); postorbital constriction, 29.4 (29.1–29.9,  $n = 3$ ); width of braincase, 49.9 (48.1–51.2,  $n = 3$ ); length of upper toothrow (C–P4), 32.4 (31.0–34.7,  $n = 4$ ); length of P4, 13.5 (12.0–14.0,  $n = 4$ ); length of lower toothrow (c–m1), 36.8 (35.0–39.3,  $n = 4$ ); and length of m1, 10.6 (9.6–11.6,  $n = 4$ —Seymour, 1999).

**DISTRIBUTION.** *Oreailurus jacobita* occurs (Fig. 3) from southern Peru (Pearson, 1957; Pulido, 1991) and Bolivia (Anderson, 1997) to northern Chile (Greer, 1965; Mann, 1945; Osgood, 1943; Pine et al., 1979) and northwestern Argentina (Chebez, 1994; Scrocchi and Halloy, 1986; Yepes, 1929). Range is known from 18 localities, based upon museum specimens, three detailed encounters (Sanderson, 1999; Scrocchi and Halloy, 1986; Ziesler, 1992), and <25 published sight records of variable reliability and detail (Chapron, 1999; Grimwood, 1969; Melquist, 1984; Perovic, 1998). Known localities are in arid and semiarid zones of the Andes at 3,000–5,000 m (Anderson, 1997; Scrocchi and Halloy, 1986). Burmeister (1879:128) saw the type specimen in Buenos Aires before it was sent to Cornalia. He stated that “il avait été chassé sur les montagnes au-dessus de Potosi et Humacuaca en Bolivie.” This implies that the type was collected at >3,500 m, rather than >1,500 m, as stated by Cornalia (Scrocchi and Halloy, 1986). No records are known below 3,000 m.

Matschie (1912) described *F. colocola neumayeri* from Brazil. The specimen is definitely *O. jacobita* (Seymour, 1999), but the locality has been questioned (Kuhn, 1972; Schwangart, 1941; Scrocchi and Halloy, 1986). Specimens from La Salla (= La Salla) and Sajama National Park, Bolivia (Anderson, 1997; Yensen and Tarifa, 1993; Yensen et al., 1994; Yensen, in litt.) are misidentifications of *Lynchailurus*. Fossils of *O. jacobita* are unknown.

**FORM AND FUNCTION.** Footprints of *O. jacobita* are 4 cm long by 3.5 cm wide, and well rounded (Scrocchi and Halloy, 1986). Unlike *Lynchailurus*, the triangular foot pad of the Andean mountain cat has a large anterior notch on the pes (L. Villalba and N. Bernal, in litt.). Sexual dimorphism has not been documented in *O. jacobita*. Longevity in captivity is just over 1 year (Weigel, 1975), but no details were provided; this information may refer to another species. Data on ontogeny or reproduction are lacking.

**ECOLOGY.** *Oreailurus jacobita* sometimes enters dens of its prey, mountain viscachas (*Lagidium*) and chinchillas (*Chinchilla brevicaudata*—Cornalia, 1865). Burmeister (1879) also reported that the Andean mountain cat hunted mountain viscachas and preferred chinchillas. Direct observations have documented three individuals stalking mountain viscachas (Grimwood, 1969; Sanderson, 1999; Ziesler, 1992). Viscachas are mainly diurnal, whereas chinchillas are primarily nocturnal (Nowak, 1999). Data on food

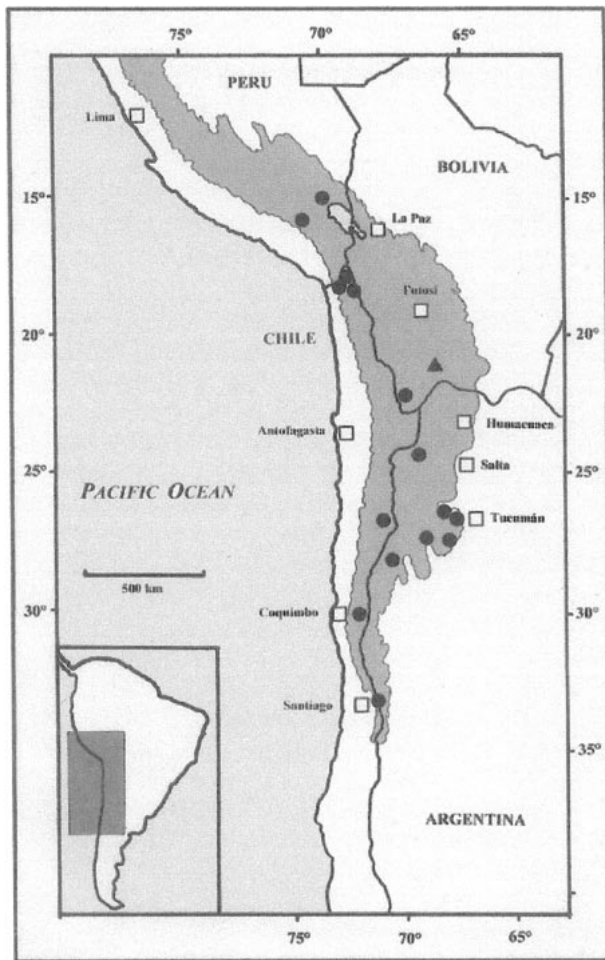


FIG. 3. Distribution of *Oreailurus jacobita* based on published records (filled circles—Anderson, 1997; Grimwood, 1968; Scrocchi and Halloy, 1986; Ziesler, 1992). Shading indicates approximate extent of areas above 3,000 m; actual topography is more complex than shown. Type locality (triangle) is not known precisely.

habits are lacking, but Andean mountain cats probably do eat other prey in the absence of chinchillas and viscachas.

In Peru, a male was collected in a steel trap at 4,725 m among rock outcrops with bare ground, scattered bunchgrass (*Festuca orthophylla*), and tola (possibly *Parastrephia*) bushes. Other species in this habitat were Andean fox (*Pseudalopex culpaeus*), puma (*Puma concolor*), viscacha (*Lagidium*), vicuña (*Vicugna vicugna*), mountain caracara (*Phalacrocorax maculatus*), tinamous (*Tinamotis*), and seed snipe (*Attagis, Thinocorus*—Pearson, 1957).

In Argentina, an individual was observed in puna (high elevation treeless grassland) habitat (4,250 m) dominated by bunchgrasses (*F. orthophylla*, *F. eriostoma*), small shrubs (*Parastrephia phyllaeformis*, *Tetraglochin alatum*, *Nassawia azilaris*), and cryptogams, with wet and grassy meadows, and a small lake (Scrocchi and Halloy, 1986). Associated mammals included viscachas, guanacos (*Lama guanicoe*), Andean deer (*Hippocamelus antisensis*), pampas cats, pumas, tuco tucos (*Ctenomys*), hairy armadillos (*Chaetophractus vellerosus*), foxes (*Pseudalopex*), mice (*Phyllotis, Akodon*), and rabbits (*Sylvilagus*). Two specimens from 4,550 and 4,700 m in Potosí Department, Bolivia, were from an open shrubland of *Polylepis* on rocky slopes, wet meadows along arroyos, and open grassland (T. Tarifa, in litt.).

Specimen records of *O. jacobita* are from rocky areas of the High-Andean Biogeographic Province (Scrocchi and Halloy, 1986), which extends above 4,200 m, and possibly also from the Puneña Biogeographic Province, which extends from 3,200 to 4,400 m between 15 and 27°S latitude (Cabrera and Willink, 1973). Ranges

and habitats of Andean mountain cats, mountain viscachas, and chinchillas seem to be similar, and their ranges and the distribution of the High-Andean and Puneña Biogeographic Provinces also seem to coincide. The Andean mountain cat's restricted distribution and present rarity may be due to its specialized diet of chinchillas and viscachas, which are, in turn, restricted to a narrow range of habitats (Nowell and Jackson, 1996).

**BEHAVIOR.** Only four observations of the behavior of this rare species have been published. One Andean mountain cat was observed hunting viscachas in Peru but no details were provided (Grimwood, 1969). A single observation in northwestern Argentina on 7 October 1980 at 1015 h was reported: "The cat walked normally to a trickle of melting ice and drank. After drinking, it appeared bothered when suddenly noticing the presence of an observer only 14 m distant. It looked for some seconds, huddled in the same position as while drinking. Then it walked slowly and obliquely to the margin of Laguna Grande. Its form of walking, agile and silent, demonstrated it was in good health. It always headed for concavities in the terrain, which would make it invisible at a short distance, especially in this season when the vegetation had colors almost identical to its pelage. It did not hurry its steps in spite of two observers following at 15–20 m distance" (Scrocchi and Halloy, 1986:165; translation by E. Yensen). Two crested ducks (*Anas specularioides*) stayed 3–4 m from shore while the cat walked 2–3 m back from the shoreline of the lake. While the cat was sitting on a rock, a fox (*Pseudalopex cf. griseus*) approached within 20 m, saw the cat, and retreated running to a distance of 40 m and erected the hairs on its back. The cat continued sitting without reaction. The cat moved off the rock and lay down in the shade under an overhanging rock for ca. 20 min. While under the rock, the cat was mobbed repeatedly by a songbird (*Tripodaga baeri*). The cat eventually moved slowly out of the area after 2 h of observation. This was the only sighting in 33 trips to the area over 12 years, with 260 d of observation and 1,500 km walked. Tracks were seen on four or five occasions. Scrocchi and Halloy (1986) suggested that the species is nocturnal, but presented no direct evidence. Five sightings in northwestern Argentina (Perovic, 1998) were during the day, but sightings at night also have been reported (Chapron, 1999).

At Sala de Surire National Park in northern Chile, an individual was observed for ca. 20 min (Ziesler, 1992). The animal moved lightly over large boulders, explored beside and under them, and apparently was hunting viscachas. Tail was carried high, waving in the air. The hunt was unsuccessful. The cat was aware of the observer, but did not seem disturbed by his presence.

A male was observed at Sala de Surire, Chile, on three occasions (Sanderson, 1999:25), one time for 5 h and from as close as 2 m. The animal was not afraid of the observer and once "stretched, yawned, sprayed a rock and then slept for 12 minutes before resuming his search through a mountain viscacha colony." Attempts to trap the animal (591 trap days) were unsuccessful.

*Oreailurus jacobita* is an agile hunter that can jump and run quickly (Cornalia, 1865). Mountain viscachas and chinchillas are saltatorial rodents that evade predators by making sudden jumps in unpredictable directions. The long tail of *O. jacobita* may be an adaptation for maintaining balance while rapidly changing directions when pursuing ricochet prey (Nowell and Jackson, 1996).

**GENETICS.** *Oreailurus jacobita* has been considered closely related to *Lynchailurus* (Hemmer, 1978; Herrington, 1986). In a cladistic analysis of dental and cranial characteristics, *O. jacobita*, *Lynchailurus*, and an Asian species, *Prionailurus rubiginosus*, formed a monophyletic group (Salles, 1992), although Werdelin and Olsson (1997) found that the dendrogram provided by Salles was not the most parsimonious for the published matrix. A cladistic analysis of mitochondrial DNA sequences of the 16S, reduced nicotinamide adenine dinucleotide (NADH)-5, and adenosine triphosphate (ATP)-8 genes showed that the South American cats formed two clades, one consisting of *O. jacobita*, ocelot, and margay and the other clade consisting of pampas cat, oncilla, Geoffroy's cat, and kodkod (Johnson et al., 1998). In none of these analyses was *O. jacobita* close to the morphologically similar *L. colocolo*.

Scrocchi and Halloy (1986) postulated that deep valleys dissecting the high Andes have fragmented the range of *O. jacobita* into many small, isolated populations. The patchy nature of visca-

cha distribution would further isolate them (Nowell and Jackson, 1996). However, DNA from seven *O. jacobita* had pairwise Kimura distances of 0.4–1.5%, indicating that this species probably has not been through population bottlenecks that would reduce genetic variability (Johnson et al., 1998).

**CONSERVATION STATUS.** *Oreailurus jacobita* is listed in Convention on International Trade in Endangered Species of Fauna and Flora (CITES) Appendix I, and is classified as ‘Endangered’ under the U.S. Endangered Species Act. This species is ranked as category 2 (second priority) in a global ranking of cat species vulnerability, and as category 1 (top priority) in South America, and considered ‘Insufficiently Known’ by Nowell and Jackson (1996) and ‘Vulnerable’ (International Union for Conservation of Nature, 1996). In Argentina, *O. jacobita* has been protected since 1981 (Law No. 22421), and listed as vulnerable since 1983 (Resolution No. 144—Melquist, 1984). In 1986, all commercialization, trade, and export of *O. jacobita* was prohibited (Resolution No. 63—Fuller et al., 1987). In Chile, it is considered ‘rare’ (Glade, 1993) and has been protected since 1972 (Iriarte and Jaksic, 1986). This protection was extended in 1980 to all hunting and commercialization (Decreto No. 354—Fuller et al., 1987). In Bolivia, it is considered ‘rare’ and ‘vulnerable’ (Tarifa, 1996) and has been protected since 1979 by Decreto Supremo No. 16605 (Fuller et al., 1987) and since 1990 by a general ban on all hunting (Decreto Supremo No. 22641—T. Tarifa, in litt.). In Peru, it is considered ‘rare’ (Pulido, 1991) and is protected (Nowell and Jackson, 1996).

*Oreailurus jacobita* has been called the “least known of the world’s cats” (Melquist, 1984:64; Pine et al., 1979:370). This species was considered “perhaps the most threatened species of cat in Chile” (Miller et al., 1983:342), and classified as ‘vulnerable,’ possibly due to exploitation for pelts and habitat deterioration. Field work in Argentina (Perovic, 1998; Scrocchi and Halloy, 1986) and interviews with local people in Chile (A. Iriarte, in litt.; Sanderson, 1999) and Bolivia (L. Villalba and N. Bernal, in litt.) indicate that the species is rare. The remarkable tameness of the animals (Sanderson, 1999; Scrocchi and Halloy, 1986; Ziesler, 1992) suggests that they would be easy to hunt. Further, habitat changes in the high Andes are numerous (Ellenberg, 1979; Fjeldsa and Kessler, 1996), and populations of the presumed prey species of this cat are much reduced, some nearly to extinction (Gudynas, 1989; Miller et al., 1983).

In northern Chile and Bolivia, seeing an Andean mountain cat is believed to be bad luck and the person must kill the cat (Chapron, 1999). Skins are used in folk magic or religious rituals for preparing tables of offerings (Tarifa, 1996). Thus, the species enters traditional markets such as the “witches market” in La Paz, Bolivia (Anderson, 1997; Kuhn, 1972; Tarifa, 1996), but commercial trade in *O. jacobita* is probably minimal (Melquist, 1984). They are considered not to have entered into international trade (Nowell and Jackson, 1996), although one pelt destined for the skin trade was photographed and published (Mares and Ojeda, 1984).

**REMARKS.** Much early taxonomic confusion regarding *O. jacobita* was due to the absence of good illustrations showing the difference between it and *Lynchailurus* (Cabrera, 1961). Good photographs have now been published (Brett, 1992:57; Johnson et al., 1998; Nowell and Jackson, 1996:plate 6; Scrocchi and Halloy, 1986:photo 2; Sunquist, 1996; Ziesler, 1992) and the considerable variation in *Lynchailurus* has been documented (Garcia-Perea, 1994).

For many years *O. jacobita* was confused with *L. colocolo* because the original description of *F. colocolo* by Molina (1782) was vague. Subsequent workers used *F. pajeros* Desmarest for the pampas cats and *F. colocolo* Molina for the Andean mountain cat, and relegated *F. jacobita* to the synonymy of *F. colocolo* (Allen, 1919; Burmeister, 1879; Elliot, 1883; Lydekker, 1896; Matschie, 1912; Philippi, 1869, 1870, 1873; Pocock, 1941; Schwangart, 1941). Consequently, several early illustrations of Andean mountain cats were labeled as *F. colocolo* (Elliot, 1883:plate 12; Lydekker, 1896:plate 21; Philippi, 1870:plate 1). More recently, a photograph of an individual of *Lynchailurus* in the San Diego Zoo (Walker, 1964:1275) was incorrectly labeled as *F. jacobita* (Seymour, 1999). Cabrera (1940), following Wolffsohn (1908), concluded that *F. colocolo* was the correct name for the pampas cat and the Andean

mountain cat therefore should be called *O. jacobita* (Osgood, 1943; Seymour, 1999).

Generic-level taxonomy of small felids is controversial, and generic names have changed frequently in recent years. Although Allen (1919) placed the Andean mountain cat in *Oncifelis*, most workers since Allen have placed this species in *Oreailurus*, sometimes as a subgenus of *Felis*. Herrington (1986), Salles (1992), and Werdelin (1993) placed it in *Leopardus*, along with all other South American small cats except *H. yagouaroundi*. We use *Oreailurus* here for consistency with the current checklist (Wozencraft, 1993). However, because DNA sequence studies cluster this species with the margay and ocelot (Johnson et al., 1998), this species may best be included in the genus *Leopardus* (Seymour, 1999).

*Oreailurus* comes from the Greek ‘*oreos*’ for mountain and ‘*ailurus*’ for cat (Cabrera, 1940). The specific epithet, *jacobita*, is in honor of Jacobita Mantegazza (Cornalia, 1865) and thus is not declinable.

Other common names include Andean cat (Eisenberg and Redford, 1999; Melquist, 1984; Redford and Eisenberg, 1992; Scrocchi and Halloy, 1986); mountain cat (Melquist, 1984; Nowak, 1999); Andean highland cat (Greer, 1965; Miller et al., 1983; Osgood, 1943); chat des Andes (Ziesler, 1992); Andenkatz (Kuhn, 1972); Bergkatze, osjo (Nowell and Jackson, 1996); gato andino, gato lince (Cabrera, 1961; Cabrera and Yepes, 1940); gato montes (Grimwood, 1969); gato montes andino, gato montes altiplanico (Nowell and Jackson, 1996); chinchay (Grimwood, 1969; Tamayo and Frassinetti, 1980); aleopardo (Mann, 1945); oscalla (Anderson, 1997); titimisi, titimayu (N. Bernal, in litt.); and titi (Nowell and Jackson, 1996).

We thank T. Tarifa, K. Nowell, and P. Jackson for help in locating literature; T. Tarifa for information on Bolivian specimens; M. Dickson for the skull drawings of *O. jacobita*; G. Ziesler for kindly making his photograph available; and P. Jackson, T. Tarifa, and L. Werdelin for helpful comments on the manuscript.

#### LITERATURE CITED

- ALLEN, J. A. 1919. Notes on the synonymy and nomenclature of the smaller spotted cats of tropical America. *Bulletin of the American Museum of Natural History*, 41:341–419.
- ANDERSON, S. 1997. Mammals of Bolivia, taxonomy and distribution. *Bulletin of the American Museum of Natural History*, 231:1–652.
- BRETT, C. 1992. *Wild cats*. Dorset Press, New York.
- BURMEISTER, H. 1879. Description physique de la République Argentine d’après des observations personnelles et étrangères. Volume 3, Animaux vertébrés; Part 1, Mammifères vivants et éteints. Paul-Emile Coni, Buenos Aires, Argentina.
- CABRERA, A. 1940. Notas sobre carnívoros sudamericanos. *Notas del Museo de La Plata*, 5, Zoología, 29:1–22.
- CABRERA, A. 1957. [1958]. Catálogo de los mamíferos de América del Sur. *Revista del Museo Argentino de Ciencias Naturales “Bernardino Rivadavia,” Ciencias Zoológicas*, 4:1–307.
- CABRERA, A. 1961. Los felidos vivientes de la república Argentina. *Revista del Museo Argentino de Ciencias Naturales “Bernardino Rivadavia,” Ciencias Zoológicas*, 6:161–247.
- CABRERA, A., AND A. WILLINK. 1973. *Biogeografía de América Latina*. Organization of American States, Programa Regional de Desarrollo Científico y Tecnológico, Washington, D.C.
- CABRERA, A., AND J. YEPES. 1940. *Mamíferos Sud Americanos, vida, costumbres y descripción*. Historia Natural Ediar, Compañía Argentina de Editores, Buenos Aires, Argentina.
- CAGNOLARO, L. 1976. Catalogo dei tipi del Museo Civico di Storia Naturale di Milano. Part 3, Il tipi dei mammiferi con un profilo storico sulla collezione mammalogica. *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano*, 117:85–108.
- CHAPRON, G. 1999. Évaluation du statut du chat des Andes (*Oreailurus jacobita*) par interviews des populations locales dans les Andes centrales. *Recueil de Médecine Vétérinaire*, 175:119–125.
- CHEBEZ, J. C. 1994. Los que se van. *Especies argentinas en peligro*. Albatros, Buenos Aires, Argentina.
- CORNALIA, E. 1865. Descrizione di una nuova specie del genere: *Felis. Felis jacobita* (Corn.). *Memorie della Società Italiana di Scienze Naturali*, 1:1–10.

- EISENBERG, J. F., AND K. H. REDFORD. 1999. Mammals of the Neotropics. The central Neotropics: Ecuador, Peru, Bolivia, Brazil. The University of Chicago Press, Illinois, 3:1–609.
- ELLENBERG, H. 1979. Man's influence on tropical mountain ecosystems in South America. *Journal of Ecology*, 67:401–416.
- ELLIOT, D. G. 1883. A monograph of the Felidae or family of cats. Taylor and Francis, London, United Kingdom [40 plates republished by Natural History Museum Library. 1991. Big cats. Wordsworth Editions, Ltd., Ware, United Kingdom].
- FJELDSÅ, J., AND M. KESSLER. 1996. Conserving the biological diversity of *Polylepis* woodlands of the highland of Peru and Bolivia. A contribution to sustainable natural resource management in the Andes. NORDECO, Copenhagen, Denmark.
- FULLER, K. S., B. SWIFT, A. JORGENSON, A. BRAUTIGAM, AND A. L. GASKI. 1987. Latin American wildlife trade laws. Second ed., with 1987 update. World Wildlife Fund, Washington, D.C.
- GARCIA-PEREA, R. 1994. The pampas cat group (genus *Lynxchailurus* Severtzov, 1858) (Carnivora: Felidae), a systematic and biogeographic review. *American Museum Novitates*, 3096:1–36.
- GLADE, A. A. (ed.). 1993. Libro rojo de los vertebrados terrestres de Chile. Second ed. Corporación Nacional Forestal, Santiago, Chile.
- GREER, J. K. 1965. Another record of the Andean highland cat from Chile. *Journal of Mammalogy*, 46:507.
- GRIMWOOD, I. R. 1969. Notes on the distribution and status of some Peruvian mammals in 1968. American Committee for International Wildlife Protection and New York Zoological Society, Special Publication, 21:1–86.
- GUDYNAS, E. 1989. The conservation status of South American rodents: many questions but few answers. Pp. 20–25, in *Rodents: a world survey of species of conservation concern* (W. Z. Lidicker, Jr., ed.). Occasional Papers of the International Union for Conservation of Nature Species Survival Commission, 4:1–60.
- HEMMER, H. 1978. The evolutionary systematics of living Felidae: present status and current problems. *Carnivore*, 1:71–79.
- HERRINGTON, S. J. 1986. Phylogenetic relationships of the wild cats of the world. Ph.D. dissertation, University of Kansas, Lawrence, 421 pp.
- INTERNATIONAL UNION FOR CONSERVATION OF NATURE. 1996. 1996 red list of threatened animals. International Union for Conservation of Nature, Gland, Switzerland.
- IRIARTE, J. A., AND F. M. JAKSIC. 1986. The fur trade in Chile: an overview of seventy-five years of export data (1910–1984). *Biological Conservation*, 38:243–253.
- JOHNSON, W. E., M. CULVER, A. IRIARTE, E. EIZIRIK, K. L. SEYMOUR, AND S. J. O'BRIEN. 1998. Tracking the evolution of the elusive Andean mountain cat (*Oreailurus jacobita*) from mitochondrial DNA. *Journal of Heredity*, 89:227–232.
- KUHN, H.-J. 1972. Zur Kenntnis der Andenkatze, *Felis (Oreailurus) jacobita* Cornalia, 1865. *Säugetierkundliche Mitteilungen*, 21:359–364.
- LYDEKKER, R. 1896. *A handbook to the Carnivora*. Part I, Cats, civets, and mungooses. Edward Lloyd, London, United Kingdom.
- MANN, F. G. 1945. Mamíferos de Tarapaca: observaciones realizadas durante una expedición al alto norte de Chile. *Biológica (Santiago)*, 2:32–134.
- MARES, M. A., AND R. A. OJEDA. 1984. Faunal commercialization and conservation in South America. *BioScience*, 34:580–584.
- MATSCHIE, P. 1912. Über *Felis jacobita, colocola* und zwei ihnen ähnliche Katzen. *Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin*, 4:255–259.
- MELQUIST, W. E. 1984. Status survey of otters (Lutrinae) and spotted cats (Felidae) in Latin America. Completion report to International Union for Conservation of Nature (contract 9006), Moscow, Idaho.
- MILLER, S. D., J. ROTTMANN, K. J. RAEDEKE, AND R. D. TABER. 1983. Endangered mammals of Chile: status and conservation. *Biological Conservation*, 25:335–352.
- MOLINA, G. I. 1782. *Saggio sulla storia naturale del Chili*. S. Tommaso d'Aquino, Bologna, Italy.
- NOWAK, R. M. 1999. *Walker's mammals of the world*. Sixth ed. Johns Hopkins University Press, Baltimore, Maryland, 1:1–836; 2:837–1936.
- NOWELL, K., AND P. JACKSON (EDS.). 1996. *Wild cats: status survey and conservation action plan*. International Union for Conservation of Nature, Gland, Switzerland.
- OSGOOD, W. H. 1943. The mammals of Chile. *Field Museum of Natural History, Zoological Series*, 30:1–268.
- PEARSON, O. P. 1957. Additions to the mammalian fauna of Peru and notes on some other Peruvian mammals. *Brevoria*, 73:1–7.
- PEROVIC, P. G. 1998. La comunidad de carnívoros en la Reserva de Biosfera Laguna de Pozuelos. Pp. 175–182, in *Bases para la conservación y manejo de la puna y Cordillera Frontal de Argentina*. El rol de las reservas de biosfera (J. L. Cajal, J. García Fernández and R. Tecchi, eds.). United Nations Educational, Scientific and Cultural Organization–Uruguay and Fundación para la Conservación de las Especies y del Medio Ambiente, Buenos Aires, Argentina.
- PHILIPPI, R. A. 1869. El colocolo de Molina. *Anales de la Universidad de Chile*, 33:205–207.
- PHILIPPI, R. A. 1870. Ueber *Felis colocolo* Molina. *Archiv für Naturgeschichte*, 36:41–45.
- PHILIPPI, R. A. 1873. Ueber *Felis guiña* Molina und über die Schädelbildung bei *Felis pajeros* und *Felis colocolo*. *Archiv für Naturgeschichte*, 39:8–15.
- PINE, R. H., S. D. MILLER, AND M. L. SCHAMBERGER. 1979. Contributions to the mammalogy of Chile. *Mammalia*, 43:339–376.
- POCOCK, R. I. 1941. The examples of the colocolo and of the pampas cat in the British Museum. *Annals and Magazine of Natural History, Series 11*, 7:257–274.
- PULIDO, V. 1991. El libro rojo de la fauna silvestre del Perú. Instituto Nacional de Investigación Agraria y Agroindustrial, World Wildlife Fund, United States Fish and Wildlife Service, Lima, Peru.
- REDFORD, K. H., AND J. F. EISENBERG. 1992. Mammals of the Neotropics. The southern cone: Chile, Argentina, Uruguay, Paraguay. The University of Chicago Press, Illinois, 2:1–430.
- SALLES, L. O. 1992. Felid phylogenetics: extant taxa and skull morphology (Felidae, Aeluroidea). *American Museum Novitates*, 3047:1–67.
- SANDERSON, J. 1999. Andean mountain cats in northern Chile. *Cat News*, 30:25–26.
- SCHWANGART, F. 1941. Südamerikanische Busch-, Berg- und Steppenkatzen. *Abhandlungen der Bayerischen Akademie der Wissenschaften, Mathematisch-naturwissenschaftliche Abteilung, Neue Folge*, 49:1–44.
- SCROCCHI, G. J., AND S. P. HALLOY. 1986. Notas sistemáticas, ecológicas, etológicas y biogeográficas sobre el gato andino *Felis jacobita* Cornalia (Felidae, Carnivora). *Acta Zoologica Lilloana*, 38:157–170.
- SEYMOUR, K. L. 1999. Taxonomy, morphology, paleontology and phylogeny of the South American small cats (Mammalia: Felidae). Ph.D. dissertation, University of Toronto, Canada, 929 pp.
- SUNQUIST, F. 1996. Cat cameos. *Wildlife Conservation*, May/June:18–29.
- TAMAYO H., M., AND D. FRASSINETTI C. 1980. Catálogo de los mamíferos fósiles y vivientes de Chile. *Boletín Museo Nacional de Historia Natural de Chile*, 37:323–399.
- TARIFA, T. 1996. Mamíferos. Pp. 165–264, in *Libro rojo de los vertebrados de Bolivia* (P. Ergueta S. and C. Morales, eds.). Centro de Datos para la Conservación, La Paz, Bolivia.
- WALKER, E. P. 1964. *Mammals of the world*. Johns Hopkins University Press, Baltimore, Maryland, 2:647–1500.
- WEIGEL, I. 1975. Small felids and clouded leopards. Pp. 281–332, in *Grzimek's animal life encyclopedia* (R. Altevogt et al., eds.), Van Nostrand Reinhold, New York, 12:1–657.
- WERDELIN, L. 1993. Phylogenies, fossils and evolutionary studies. *Quaternary International*, 19:109–116.
- WERDELIN, L., AND L. OLSSON. 1997. How the leopard got its spots: a phylogenetic view of the evolution of felid coat patterns. *Biological Journal of the Linnean Society*, 62:383–400.

- WOLFFSOHN, J. A. 1908. Contribuciones a la mamalogía chilena—I. Sobre el *Felis colocolo* Molina. *Revista Chilena de Historia Natural*, 12:165–172.
- WOZENCRAFT, W. C. 1993. Order Carnivora. Pp. 279–348, in *Mammal species of the world: a taxonomic and geographic reference* (D. E. Wilson and D. M. Reeder, eds.). Smithsonian Institution Press, Washington, D.C.
- YENSEN, E., AND T. TARIFA. 1993. Reconocimiento de los mamíferos del Parque Nacional Sajama. *Ecología en Bolivia*, 21: 45–66.
- YENSEN, E., T. TARIFA, AND S. ANDERSON. 1994. New distribution records of Bolivian mammals. *Mammalia*, 58:405–413.
- YEPES, J. 1929. Notas sobre algunos de los mamíferos descritos por Molina, con distribución geográfica en Chile y Argentina. *Revista Chilena de Historia Natural*, 33:468–472.
- ZIESLER, G. 1992. Souvenir d'un chat des Andes. *Animan*, 50: 68–79.

Editor of this account was LESLIE N. CARRAWAY. Managing editor was VIRGINIA HAYSEN.

E. YENSEN, DEPARTMENT OF BIOLOGY, ALBERTSON COLLEGE, CALDWELL, IDAHO 83605; and K. L. SEYMOUR, DEPARTMENT OF PALAEOBIOLOGY, ROYAL ONTARIO MUSEUM, 100 QUEEN'S PARK, TORONTO, ONTARIO M5S 2C6, CANADA.