MAMMALIAN SPECIES No. 548, pp. 1–10, 3 figs.

Leopardus pardalis.

By Julie L. Murray and Gregory L. Gardner

Published 9 May 1997 by the American Society of Mammalogists

Leopardus pardalis (Linné, 1758)

Ocelot

[*Felis*] *pardalis* Linné, 1758:42. Type locality "America," but later restricted by Allen (1919:345) to "State of Vera Cruz, Mexico."

Felis mexicana Kerr, 1792:151. Type locality "New Spain" [presumably Mexico].

Felis ocelot Link, 1795:90. Type locality state of Veracruz, Mexico. Renaming of *Felis pardalis* Linné.

Felis armillatus Cuvier, 1820:139. Type locality unknown (Cabrera, 1957:283).

Felis mitis Cuvier, 1820:141, plate 54. Type locality unknown, but later restricted to "Río de Janeiro, Brasil" (Cabrera, 1957: 284).

[*F*]*elis chibi-gouazou* Gray, *in* Griffith, 1827:167. Type locality "Paraguay."

Felis chati Gray, *in* Griffith, 1827:169. Type locality "America."

Felis griffithii Fischer, 1829:569. Type locality unknown, but probably from Veracruz, Mexico (Goldman, 1943:375).

[*F*]*elis chibiguazu* Fischer, 1829:568. Type locality "America australi."

[*F*]*elis hamiltonii* Fischer, 1829:568. Type locality "America australi."

Felis canescens Swainson, 1838:118. Type locality [probably from Veracruz, Mexico]. Formal naming of *F. ocelot* No. 3 of Hamilton Smith.

Felis smithii Swainson, 1838:120, figure 19. Type locality unknown.

Felis maracaya Wagner, 1841:492. Type locality unknown.

Leopardus griseus Gray, 1842:260. Type locality "Central America," but later restricted to "Guatemala" (Gray, 1867:270).

Leopardus pictus Gray, 1842:260. Type locality "Central America."

Felis pseudopardalis Boitard, 1842:187. Type locality given as "Mexique et la baie de Campêche," but emended by Cabrera (1957:284) to Cartagena, Colombia.

[*F*]*elis brasiliensis* Schinz, 1844:435. Type locality "Brasilia" [= Brazil].

Felis melanura Ball, 1844:128. Type locality unknown, but probably Guyana (= British Guiana—Pocock, 1941*b*:328–333).

Felis albescens Pucheran, *in* Geoffroy Saint-Hilaire, 1855:149. Type locality "l'état d'Arkansas."

Felis limitis Mearns, 1902:146. Type locality "Brownsville [Cameron County], Texas."

Felis aequatorialis Mearns, 1903:246. Type locality "Paramba, northern Ecuador (altitude 3,500 feet)."

Felis mearnsi Allen, 1904*a*:71. Type locality "Talamanca, Costa Rica." A renaming of *F. costaricensis* Mearns (preoccupied).

Felis maripensis Allen, 1904*b*:331. Type locality "Maripa, Caura district, Venezuela."

Felis sanctaemartae Allen, 1904*b*:332. Type locality "Santa Marta district, Colombia."

Felis ludoviciana Brass, 1911:411. Type locality "In Louisiana, Arkansas und Texas."

Felis buffoni Brass, 1911:412. Type locality "Mexiko."

CONTEXT AND CONTENT. Order Carnivora, Family Felidae. Subfamily Felinae, Genus *Leopardus*, Subgenus *Leopardus*. The genus *Leopardus* contains three species: *L. pardalis*, *L. tigrinus*, and *L. wiedii*. *L. pardalis* contains 10 subspecies (Cabrera, 1957; Goldman, 1943; Wozencraft, 1993):

L. p. aequatorialis (Mearns, 1903:246), see above (*mearnsi* Allen and *minimus* Wilson are synonyms).

L. p. albescens (Pucheran, *in* Geoffroy Saint-Hilaire, 1855:149), see above (*limitis* Mearns and *ludoviciana* Brass are synonyms).

L. p. melanura (Ball, 1844:128), see above (*maripensis* Allen and *tumatumari* Allen are synonyms).

L. p. mitis (Cuvier, 1820:141), see above (*armillatus* Cuvier, *brasiliensis* Schinz, *chati* Gray, *chibi-gouazou* Gray, *chibiguazu* Fischer, *hamiltonii* Fischer, *maracaya* Wagner, *smithii* Swainson are synonyms).

L. p. nelsoni (Goldman, 1925:122). Type locality "Manzanillo, Colima, Mexico."

L. p. pardalis (Linné, 1758:42), see above (*canescens* Swainson, *griffithii* Fischer, *griseus* Gray, *ocelot* Link, *pictus* Gray, and probably *buffoni* Brass, *mexicana* Kerr, and *pseudopardalis* Boitard are synonyms).

L. p. pseudopardalis (Boitard, 1842:187), see above (*sanctaemartae* Allen is a synonym).

L. p. pusaea Thomas, 1914:347. Type locality "Chongón, 15 miles W. of Guayaquil," Provincia Guayas, coast-region of Ecuador.

L. p. sonoriensis (Goldman, 1925:123). Type locality "Camoa, Rio Mayo, Sonora, Mexico."

L. p. steinbachi Pocock, 1941*a*:235. Type locality "Buenavista, Santa Cruz, Bolivia."

DIAGNOSIS. The ocelot (*Leopardus pardalis*; Fig. 1) is the largest of the small spotted cats (Redford and Eisenberg, 1992). It is about the size of the bobcat (*Lynx rufus*), but the tail is longer (27–45 cm vs. 12–19 cm—Leyhausen, 1990) and the pelage is shorter. Compared with the jaguar (*Panthera onca*), *L. pardalis* is smaller (11–16 kg vs. 74–104 kg—Kiltie, 1984; Leyhausen, 1990) and has parallel black stripes on the nape and oblique stripes near the shoulder (Davis, 1974). The ocelot closely resembles the margay (*Leopardus wiedii*), but *L. pardalis* is heavier (11–16 kg vs. 3–9 kg—Leyhausen, 1990), has a longer body length (70–100 cm vs. 53–79 cm—Leyhausen, 1990), is taller at the shoulders than *L. wiedii* (40–50 cm vs. 30–45 cm—Leyhausen, 1990), and *L. pardalis* has a shorter tail that barely touches the ground (27–45 cm vs. 33–51 cm—Leyhausen, 1990).

GENERAL CHARACTERS. Pelage color varies greatly, even within a population. Markings on one side do not match the other, with the forehead, crown, nape, and shoulders showing the greatest variability. Ocelots north of the Rio Grande are more gray-

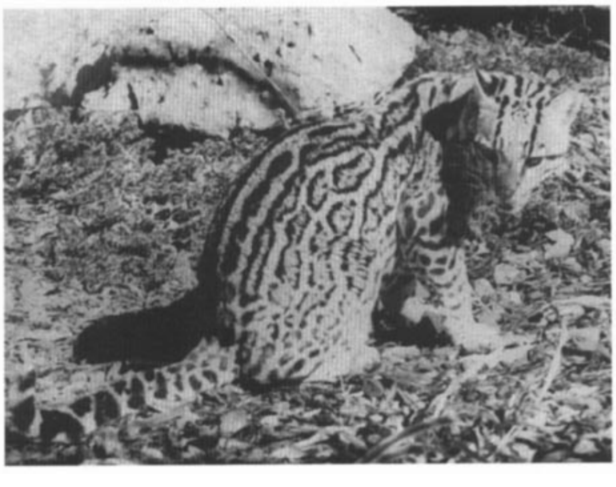

FIG. 1. Adult *Leopardus pardalis*. Photograph by C. H. Kilgore.

ish than those to the south, with black markings reduced to the width of the spaces between them (Cahalane, 1947; Cisin, 1967; Goldman, 1943). Ground colors vary from grayish to cinnamon to buff. Base color from the crown to just behind the shoulder blades is a deeper tone than that of the posterior half of the dorsal area, and ground color of the sides is paler than the back. The most distinguishing marks are black-bordered elongated spots that enclose portions of the ground color and form chainlike streaks that run obliquely down the sides. Underparts are white, spotted with black, and the tail is spotted and ringed with black (Allen, 1919; Davis, 1974; Denis, 1964). The head has small black spots and two black stripes on the cheeks, four to five parallel stripes run down the neck, and one or two transverse bars run along the insides of the forelegs. The hair grows forward along the neck from shoulder to ear. Eyes are dark brown, and when illuminated with artificial light appear golden rather than the more common green (Brown, 1989; Cisin, 1967). Females average smaller than males (Goldman, 1943) and physically resemble males even down to a vestigial scrotum in females (Cisin, 1967).

External measurements (in mm) for adult males and females for *L. p. aequatorialis*, *L. p. albescens*, *L. p. melanura*, and *L. p. mitis*, respectively, are: total length, 1057–1230 and 1050–1189, 924–1188 and 950–1048, 1249–1306 and—, 1150–1163 and 981; length of tail vertebrae, 295–355 and 280–366, 292–380 and 300–329, 330–356 and—, 340 and 290; length of hind foot, 142–151 and 146–165, 137–163 and 133–147, 132 and—, 160–163 and 147; length of ear from notch,—and 55, 46–64 and 50–54, 48 and—, 50 and—. Skull measurements (in mm) for adult males and females for *L. p. aequatorialis*, *L. p. albescens*, *L. p. melanura*, and *L. p. mitis*, respectively, are: total length of cranium, 141.0–158.0 and 124.0–140.7, 129.0–142.7 and 117.0–133.0, 144.0–151.0 and —, 142.0–153.0 and 128.0; condylobasal length, 130.0–146.3 and 116.0–129.0, 122.0–132.2 and 111.3–114.7, 133.0–139.0 and 129.0–132.0, 137.0–139.0 and 118.0; basal length, 119.0 and —, 97.0–118.0 and 96.5–102.0, 129.0–130.0 and 120.0, 128.0–131.0 and 109.0; basilar length, 120.0–134.0 and 112.0–118.0, 105.0–114.0 and 103.0–108.0, 121.0–139.0 and 114.0–117.0, — and —; zygomatic width, 90.0–108.0 and 92.0–96.4, 86.0–93.2 and 82.0–87.7, 90.0–100.0 and 87.0–91.0, 101.0–104.0 and 86.0; postorbital width, 27.0–33.0 and 27.8–39.0, 27.0–33.0 and 31.0–35.0, 32.0–36.0 and 29.0, 26.0–28.0 and 31.0; interorbital width, 25.0–30.0 and 19.0–29.8, 24.0–26.9 and 22.6–25.0, 27.0–32.0 and 25.0, 26.0–29.0 and 23.0; length of bulla, 25.0–29.0 and 22.0–27.0, 23.0–26.0 and 22.5–23.5, 25.0–27.0 and 24.0, 24.0–26.0 and 22.0; bullar width, 15.0–18.0 and 15.0–18.0; 15.2–18.0 and 14.5–15.5; 15.0–19.0 and 18.0; 15.0–18.0 and 15.0; P^4, 16.0–18.0 and 14.0–17.5, 14.4–15.8 and 13.8–15.0, 16.0–18.0 and 14.0–16.0, 14.5–17.0 and 15.0; C^1, 9.5–10.0 and —; 8.0–9.0 and 7.0–8.0, — and 7.0, 9.5–13.0 and 6.5; M_1, 12.0–13.0 and 11.0–12.2, 10.6–11.5 and 10.6–11.0, 12.0–13.0 and 11.0–12.0, 11.5–12.0 and 11.5 (Allen, 1904*b*, 1906; Goldman, 1943; Mearns, 1903; Pocock, 1941*b*).

DISTRIBUTION. The ocelot once ranged into Louisiana, Arkansas, and Arizona, south to Peru and northern Argentina (Fig. 2). Currently it ranges from extreme southern Texas through Mexico and Central America to Ecuador and northern Argentina, but it does not occur south of the Province of Entre Ríos in Argentina (Denis, 1964; Redford and Eisenberg, 1992). The ocelot also is known from Trinidad and Isla de Margarita, Venezuela, but not from the Antilles (Bisbal, 1983; Tewes and Schmidly, 1987). *L. pardalis* does not inhabit the high plateaus of southern Peru, and there is no record from Chile (Oliveira, 1994).

FOSSIL RECORD. *Leopardus pardalis* fossils from North America include the proximal end of a right femur from Haile IA, Alachua Co., Florida (Kurtén, 1965), and a left mandibular ramus from the Rancholabrean Reddick I fauna in Marion Co., Florida (Berta and Marshall, 1978; Glass and Martin, 1978; Kurtén, 1965; Ray, et al., 1963). This limited fossil record in North America may represent a brief extension of the range of *L. pardalis* during the Sangamonian (Werdelin, 1985). Although the exact date of habitation is unknown, a Native American village site on the San Pedro River, near Redington, Arizona, shows the ocelot was present in the United States before the arrival of Spaniards (Burt, 1961). There are no fossil records from Texas, but the ocelot probably occurred there in prehistoric times and may have ranged over the entire southeastern United States (Navarro, 1985; Rappole, 1988). Moorehead (1968) reports a picture of an ocelot carved on human bone found in the Hopewell Mound Group in Ross Co., Ohio and states his belief that the site was occupied sometime between 1400 and 1500 A.D. Cahalane (1947) suggested this finding indicated the prehistoric range of the ocelot may have extended as far north as Ohio. Moorehead (1968), however, notes that many objects in the Hopewell burial mounds came from exchange with people living further south. Fossils of ocelots from South America have been reported from Rancholabrean deposits in the Caves of Lagoa Santa, Minas Gerais, Brazil (Berta and Marshall, 1978), as well as a radius, premaxilla, and the distal end of a scapula from Pleistocene deposits in Yucatán, Mexico (Hatt, 1953).

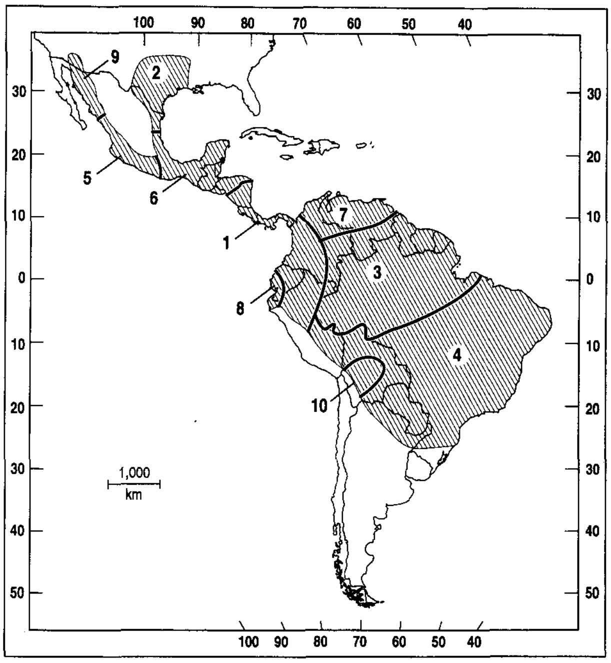

FIG. 2. Historical distribution of *Leopardus pardalis* in North and South America: 1, *L. p. aequatorialis*; 2, *L. p. albescens*; 3, *L. p. melanura*; 4, *L. p. mitis*; 5, *L. p. nelsoni*; 6, *L. p. pardalis*; 7, *L. p. pseudopardalis*; 8, *L. p. pusaea*; 9, *L. p. sonoriensis*; 10, *L. p. steinbachi*. Previously, the ocelot occurred as far north as Arizona and Arkansas in the United States, but the present distribution includes only extreme southern Texas (Oliveira, 1994).

FORM AND FUNCTION. Guard hairs are ca. 10 mm long and underfur is ca. 8 mm long (Tewes and Schmidly, 1987). The carnassials are well-developed and canines are elongated. The relative maximum bite force, when cross sectional areas of the temporalis and masseter muscles are taken as proportional to maximum force, is 1,395 mm^2, and relative maximum gape is 73 mm (Kiltie, 1984). The dental formula is i 3/3, c 1/1, p 2–3/2, m 1/1, total 28–30 (Eisenberg, 1989), and the dental formula for the deciduous dentition is i 3/3, c 1/1, p 0/0, m 3/2, total 26 (Cisin, 1967). Deciduous teeth are replaced by adult teeth at ca. 7–8 months of age (Mansard, 1991). The skull (Fig. 3) has a truncated rostrum, strongly developed postorbital processes, and well-developed sagittal and occipital crests (Tewes and Schmidly, 1987). The neck has thickened skin, offering protection against attacks (Cisin, 1967). Muscles of the forelimb and pectoral girdle are strong, making the ocelot a powerful climber (Enders, 1935). Although the Felidae have reduced and truncated bacula, the ocelot has the most complex baculum in the family (Ewer, 1973).

The feet are broad and short, with forepaws larger than hind paws. Webs of the forefeet are deep and extend to the distal ends of the digital pads. The ocelot has well-developed claw sheaths with distinct inner lobes on the second, third, and fourth digits (Enders, 1935; Pocock, 1917). There are five digits with claws in the front feet, and four digits with claws in the hind feet. Normal body temperature is 37.7–38.8°C (Cisin, 1967).

ONTOGENY AND REPRODUCTION. In the wild, phys-

FIG. 3. Dorsal, ventral, and lateral views of cranium, and lateral view of mandible of an adult male *Leopardus pardalis aequatorialis*, from Río Indio, Canal Zone, Panama (United States National Museum of Natural History 170955). Greatest length of cranium is 145.3 mm. Photographs by T. L. Best.

ical maturity is achieved at ca. 20–23 months of age (Tewes, 1986). Sexual maturity may occur as early as 16–18 months (Mansard, 1991; Navarro, 1985) although sexual maturity at >24 months may be more typical (Fagen and Wiley, 1978), and males may not produce viable sperm until 30 months of age (Mondolfi, 1986). Females may have their first litter at 18–45 months of age (Laack, 1991; Mansard, 1991; Mondolfi, 1986). In Texas, two females captured in their natal ranges did not show signs of reproduction at 18–23 months of age and 30–35 months of age, and Laack (1991) suggested age of first reproduction may be influenced by factors such as nutrition and density of other adult females. Eaton (1977) estimates the length of the reproductive life in wild ocelots is ≤10 years, while one captive female was reported to reproduce at 13 years of age.

Ocelots presumably are polyestrous, although in northern latitudes captives may show a 4-month winter anoestrous (Mansard, 1990*b*). Estrus lasts 7–10 days with no conception. Females may experience several estrous periods between conceptions, but if conception takes place, estrus is reduced to ca. 5 days. In the wild, estrus probably occurs every 4–6 months, but in unmated ocelots, interestrous periods average ca. 6 weeks (Cisin, 1967; Eaton, 1977).

Copulation has been observed in captive ocelots during the evening or early morning (Mansard, 1991), and can occur 5–10 times/day (Eaton, 1976). One mount lasted 1.5 min, although the duration may vary (Mellen, 1993). The probability of conception per estrus is 50–60%. In captivity, interbirth intervals for ocelots average 9.1 months when the young are mother-raised for ≥90 days (Eaton, 1977), but wild ocelots may produce only one litter per 2 years (Emmons, 1988). When pregnancy is verified, separation of the pair prevents fetal resorption. If the litter is removed or lost, a female may come into estrus and conceive within 10–20 days (Eaton, 1977).

Estrus appears to inhibit the female's defensiveness, so if breeding is planned, the male should be placed with the female prior to estrus, or the male could kill or injure the female. Young should remain with their mother to prevent human socialization, which could delay the onset of reproduction (Eaton, 1977), but if necessary, a domestic cat (*Felis silvestris*) may be used as a foster mother. Diet of young may be supplemented with liquid Esbilac™, egg yolk, and vitamins (Dunn, 1974; Mellen, 1991).

Captive breeding is difficult. Only 71% of males and 75% of females reproduce, whereas 63% of those females that give birth raise their offspring (Mellen, 1991). Artificial insemination has been used. Of nine collections of electroejaculated semen, the volume ranged from 0.2 to 30.0 ml, although some samples were distorted by the presence of urine. Sperm count ranged from 0.4×10^6 to 1.5×10^8, with 1–55% motility. Semen was frozen successfully using the pellet method, in which the semen is placed on a block of solid carbon dioxide and immersed and stored in liquid nitrogen. Semen is thawed rapidly in 0.9% NaCl at 37°C (Seager, 1977).

In Yucatán, Mexico, ocelots mate in October and give birth in January (Denis, 1964); ocelots in Argentina give birth from October through January (Redford and Eisenberg, 1992). Breeding in wild ocelots has been recorded in late summer and autumn with young born in September and October in Texas (Cahalane, 1947). Gestation is 72–82 days. Litter size is one or two (Mondolfi, 1986), rarely three or four (Navarro, 1985). Average litter size is 1.5 in Venezuela and 1 in Peru (Emmons, 1988; Mondolfi, 1986), and 1.3 in captive ocelots (Eaton, 1977). Unlike the domestic cat, which has eight mammae, the ocelot has four, the presumed maximum litter size (Cisin, 1967). Lactation can last for 3–9 months (Mansard, 1991; Tewes, 1986).

Newborn ocelots are fully marked, but their coats are gray and their lower limbs are almost black. Adult coloration appears gradually over the first few months, beginning at the nape (Mansard, 1990*a*). Young are born with blue eyes, which change to brown when they are ca. 3 months old (Cisin, 1967; Davis, 1974). Young open their eyes at 14 days, sit up and begin walking at 3 weeks, leave the den and accompany their mother on hunts at 4–6 weeks, and begin to take solid food at ca. 8 weeks (Laack, 1991; Mansard, 1991).

Body measurements (in mm) of newborn in Texas are: total length, 230–248; length of tail, 55; length of hind foot, 33–35; length of ear, 9–10; mass, 200–276 g (Navarro, 1985). In Texas, aging an individual by tooth cementum analysis is comparable to aging by estimates of mass, but as the analysis of tooth cementum is impractical in the field, wild individuals in Texas may be classed according to the following criteria: 0–5 months, ≤3.4 kg; 6–11 months, 3.4–6.0 kg; 12–17 months, 5.1–6.6 kg; 18–23 months, 6.2–7.2 kg. These guidelines are based on both male and female subadults as there was no significant difference between sexes at <2 years of age (Laack, 1991).

Although young may be independent at 1 year, the interval between successive litters in the wild is 2 years (Emmons, 1988). Ocelots may live ≥10 years in the wild, but they can live to 18 years of age in captivity, and one captive lived 20 years, 3 months (Brown, 1989; Cisin, 1967; Laack, 1991).

ECOLOGY. In Venezuela, ocelots occur in a variety of habitats from tropical-humid forests to dry scrub country (Bisbal, 1986), typically occurring at elevations <1,200 m (Eisenberg, 1989). Ocelots have been captured in tropical-dry and tropical-humid forests, and in marshy areas, along riverbanks, in mangroves, and in swampy savannas. Preferred habitat seems to be gallery (riverine) forests (Handley, 1976; Mondolfi, 1986). *L. pardalis* occurs in all the life zones of Venezuela (Eisenberg, 1989). In the lowlands of Venezuela, it usually is captured in evergreen forests (72%), deciduous and thorn forests (14%), and in swamps, marshes, or pastures (14%—Handley 1976). In Brazil, radio-collared ocelots were found 88% of the time in semideciduous forests, 15% in marshes, 10% in riverine forests, and 2% in grasslands. Although not quantified, these percentages seemed to be proportional to habitat availability in the area (Crawshaw and Quigley, 1989). In southern Texas, *L. pardalis* inhabits live-oak forests and dense chaparral thickets offering seclusion (Navarro, 1985). Although ocelots generally avoid open habitats during the day, they sometimes forage in them at night (Emmons, 1987; Sunquist, 1992). Despite such diversity of habitats, ocelots are not habitat generalists. Instead, movement patterns indicate they are strongly associated with areas of dense vegetation or forest cover, suggesting that ocelots occupy a much narrower range of microhabitats than would have been predicted by their wide geographical distribution (Emmons, 1988; Sunquist, 1992).

Although ocelots will hunt in trees, their diet indicates they are more efficient hunters on the ground. Ocelots will take any vertebrate they can handle, most of which are nocturnal. In Venezuela, mammals account for 88% of the total volume of their diet, with spiny rats (*Proechimys*) the most frequent prey item (Bisbal, 1986). In Peru, ocelots consume 66% small mammals, 5% large rodents (>1 kg), 5% bats and arboreal mammals other than opossums, 11% birds, 12% reptiles, and 2% fish (Emmons, 1987, 1988). In Belize, opossums (*Didelphis marsupialis* and *Philander opossum*) are the most common prey (Konecny, 1989).

Ocelots will prey upon other mammals and reptiles, such as rats (*Oryzomys*), mouse opposums (*Marmosa cinerea* and *M. noctivaga*), coatis (*Nasua narica* and *N. nasua*), howler monkeys (*Alouatta caraya*), cottontails (*Sylvilagus brasiliensis* and *S. gabbi*), three-toed sloths (*Bradypus tridactylus*), porcupines (*Coendou mexicanus, C. prehensilis*, and *C. rothschildi*), nutrias (*Myocastor coypus*), lesser anteaters (*Tamandua tetradactyla*), land tortoises (*Geochelone carbonaria*), iguanas (*Iguana iguana*), and various other lizards, frogs, small turtles, and colubrid snakes (Bisbal, 1986; Emmons, 1987; Konecny, 1989; Mondolfi, 1986; Tewes and Schmidly, 1987). Ocelots are known to take birds such as guan (*Penelope jacquacu*), tinamous (*Crypturellus*), and domestic poultry (Emmons, 1988; Ludlow and Sunquist, 1987; Mondolfi, 1986). In Venezuela, two amphibians (*Leptodactylus bolivianus* and *Phrynohyas venulosa*) were found in one stomach, representing 11% of the total volume (Bisbal, 1986). In Peru, ocelots have been observed to feed on spawning fish (*Leporinus friderici*—Emmons, 1988). Although vertebrates account for 98% of ingested energy in Belize (Konecny, 1989), ocelots also ingest insects (Acrididae and Coleoptera), arthropods (Decapoda), and vegetable material, particularly grass, which is common (40%) in digestive tracts of ocelots in Venezuela (Bisbal, 1986).

Most mammalian prey (92%) weigh <1 kg, and in Venezuela almost 65% of the prey is <100 g (Emmons, 1987; Ludlow and Sunquist, 1987). In Peru, ocelots take small mammals (<0.1 kg) in numbers close to those available. Thus, there is no evidence for selection among small mammals as prey by ocelots (Emmons, 1987). In Venezuela ocelots also show seasonality in selection of prey, presumably concurrent with seasonal population fluctuations (Ludlow and Sunquist, 1987). For prey >1 kg, however, prey abundance is not as important as prey size. Instead, relatively large prey occurs in the diet of the ocelot in inverse order of size of the prey. Although larger animals such as pacas (*Aqouti paca*), collared peccaries (*Pecari tajacu*), brocket deer (*Mazama americana*), armadillos (*Dasypus novemcinctus*), and tamanduas (*Tamandua mexicana*) can be taken by ocelots, they are relatively infrequent in the diet (Emmons, 1987; Ludlow and Sunquist, 1987).

In Guárico, Venezuela, rats and mice are the dominant prey, occurring in 87% of feces examined in the dry season and 84% of those in the wet season. Land crabs (*Dilocarcinus dentatus*), iguanas (*I. iguana*), and rodents (*Zygodontomys brevicauda, Sigmodon alstoni*, and *Holochilus brasiliensis*) were taken most frequently in the dry season, although rabbits (*Sylvilagus floridanus*), birds, and other small-to-medium-sized animals also were taken. In the wet season, frequency of occurrence of crabs increased significantly in the diet, but the frequency of iguanas and *Z. brevicauda* decreased significantly (Ludlow and Sunquist, 1987).

In Peru, Emmons (1987) estimated that the average adult ocelot eats 558–837 g of meat/day, or ca. 88 g of meat/day/kg of ocelot. The mean number of prey/fecal sample is 3.0 ± 1.4, or the approximate number of prey killed each day. Since 3.2 ± 1.5 km are traveled by an ocelot in its active period, hunting success was ca. 0.9 prey captured/km walked (Emmons, 1988). Ocelots consume 6% of the total *Proechimys* production per year (Emmons, 1987).

Home ranges of adult males typically are larger than home ranges of females in the same area. In Venezuela, home ranges of adult males are 3–4 times larger than ranges of females (Ludlow and Sunquist, 1987), but in Texas they are 2 times larger. Natal ranges of subadults in Texas are comparable in size to home ranges of adult females; subadult males usually do not establish home ranges until they are 23–47 months old (Laack, 1991). Prior to establishing their own home ranges, subadults often live in their natal ranges, tolerated by their parents. In Guárico, Venezuela, home ranges of adult males are 10–11 km^2 and of females 2–7 km^2 (minimum area). Home ranges are smaller in gallery forests, presumably indicating better habitat (Ludlow and Sunquist, 1987). In Texas, average size of home range for males is 2.5 km^2 and for females 2.1 km^2 (minimum area—Navarro, 1985). Using the 95% harmonic-contour method, Tewes (1986) calculated that other ocelots in the same population had home ranges of 18 km^2 for males and 11 km^2 for females. Laack (1991) hypothesized that the density of ocelots in Navarro's study was greater, resulting in constriction of home ranges rather than sharing territories. In the central llanos of Venezuela, males use 9.7 km^2 and females use 3 km^2 (minimum-convex polygon—Sunquist et al., 1989). In Belize, however, an adult female used a home range of 15 km^2 and a subadult male used a home range of 31 km^2 (minimum-convex polygon—Konecny, 1989).

To understand how individuals use their home ranges, home-range data must be coupled with space-use data. In Texas, the average area defined by the 75%-use contour for adult ocelots is 8 km^2 and 3 km^2 for the 50%-use contour. The average core area for adult males is 6 km^2 and for adult females 3 km^2, although the intensity with which the two sexes use their core areas is similar. Surprisingly, home range size and use of space are not reduced during periods of high prey abundance (Tewes, 1986).

Territories of adult male ocelots usually overlap territories of several females, but territories of females rarely overlap, suggesting intrasexual territorialism for resident adult females. The only exception is when a female allows her independent offspring to reside within her territory, although size of home area of the offspring is smaller than that of their presumed mother. Emmons (1988) tracked four resident adult and five subadult ocelots in Peru and reported that adults tend to use the boundaries of their territories more often than the interior, visiting the entire boundaries every 2–4 days. Six adult females in Venezuela used their home ranges in a more localized manner than two adult males, who traveled farther (Ludlow and Sunquist, 1987). In Belize, one adult female living in early and late secondary growth vegetation used all of her range equally and showed no habitat preferences for either growth stage (Konecny, 1989).

For both sexes, size of home range in the wet season normally was a subset of the range in the dry season. In Guárico, Venezuela during 1983–1984, the average reductions for males, females, and one subadult male, respectively, were 11, 32, and 14% (Ludlow and Sunquist, 1987). In the central llanos of Venezuela a study from 1982–1983 revealed home ranges in the wet season were reduced by 27 and 38% for two adult females, 31% for an adult male, and 24% for a subadult female (Sunquist et al., 1989). In Texas, ocelots reduced their home range from winter (average = 7 km^2) to summer (average = 4 km^2). Similarly, winter core areas were ca. 3 km^2 and summer core areas were ca. 2 km^2 (Tewes, 1986).

In wet and dry seasons both sexes are active and moving ca. 12–14 h/day. In the central llanos of Venezuela, adult males travel farther than females in both the dry season (4 km/6-h period for males; 2 km/6-h period for females) and wet season (3 km/6-h period for males; 2 km/6-h period for females), and movement in the wet season is less than in the dry season (Ludlow and Sunquist, 1987; Sunquist, 1992). In other studies of ocelots in the central llanos, females move farther in the dry season than the wet season, but the difference was not significant (Sunquist et al., 1989). When movement was based on straight-line distance between consecutive daily locations, male ocelots in Texas cruised an average of 792 m per day while females cruised a mean of 510 m per day (Navarro, 1985). Females with kittens traveled a mean of 2 km/night, generally staying within 1 km of the den (Laack, 1991). In Belize, mean distance traveled/hour was 329 m, and mean total distance traveled/24 h was 6 km. Ocelot movements backtrack or cross themselves in Belize (Konecny, 1989), but in Peru, ocelots travel in continuous lines, rarely doubling back (Emmons, 1988).

Other than humans, the ocelot has few natural enemies. An ocelot was found in the stomach of a boa constrictor (*Boa constrictor*—Greene, 1983), and ocelots occasionally are taken by harpy eagles (*Harpia harpyja*), pumas (*Puma concolor*), jaguars (*Panthera onca*), and anacondas (*Eunectes murinus*—Emmons et al., 1989). Two interactions between ocelots and crab-eating foxes (*Cerdocyon thous*) have been reported, one in which two foxes were fighting an ocelot, and another in which the fresh carcass of a hunter-killed ocelot was dragged away by two foxes (Mondolfi, 1986). Although cannibalism is not a frequent occurrence, it occurred in a pair of ocelots (*L. pardalis mitis*) at Brasilia Zoo, Brazil (Silveira, 1972).

Parasites and diseases have been noted in ocelots. A necropsy indicated a pneumonic condition and presence of ancylostomid and strongiloid parasites in an ocelot (Crawshaw and Quigley, 1989). Common nematodes are *Toxascaris, Lagochilascaris, Toxocara cati, T. canis, T. leonina, Syngamus, Ancylostoma canium, A. brazilienese, A. tubeaform, Uncinaria stenocephala, Dirofilaria immitis, Physaloptera praeputialis*, and *Molineus pardalis*. Parasites of the phylum Platyhelminthes include *Paragonimus mexicanus, Diphyllobothrium urichi, Taenia taeniaeformis, Dipylidium canium* (usually only in captives), and *Dibotriocephalus mansonoides* (Ashton and Jones, 1980; Bravo-Hollis and Deloya, 1973; Brenes et al., 1972, 1980; Cameron, 1936; Cisin, 1967; Navarro, 1985). Class Arachnida is represented by chiggers (*Eutrombicula goeldii, Odontacarus fieldi, Trombicula dunni*) and mange (*Otodectes cynotis, Notoedres cati, Demodex folliculorum, Sarcoptes scabiei*). Insects known to occur are *Felicola felis* and fleas (*Ctenocephalides felis*—Brennan and Yunker 1966; Navarro, 1985). The only acanthocephalans known to afflict ocelots are *Oncicola chibigouzouensis* and *O. venezuelensis* (Filho, 1963; Marteau, 1977). Protists include *Toxoplasma gondii, Hammondia pardalis, Isospora bigamina, I. rivolta*, and *I. felis*. Ringworm (*Microsporum canis, M. gypseum, Trichophyton mentagorphytes*) may affect ocelots (Cisin, 1967; Hendricks et al., 1979).

Many diseases are known from captive animals, and wild ocelots may also suffer from them. *L. pardalis* have hairballs and occasionally intestinal stoppage due to ingestion of non-digestible items. Ocelots have been known to die of feline panleukopenia (feline infectious enteritis), although South American subspecies may be less susceptible. If given early in life, killed-virus vaccines have proven 98% effective and should be given prior to transportation (Ashton and Jones, 1980; Cisin, 1967). A young male ocelot kept as a pet contracted rabies (Frye and Cucuel, 1968). Another pet, a 13-year-old castrated male, had pancreatic amyloidosis which led to diabetes mellitus (Frye et al., 1975). A 16-year-old male had benign prostatic hyperplasia, diskospondylitis, and penile paresis (Norton et al., 1990). Rickets, or secondary hyperparathyroidism, also is a common problem in captive ocelots that do not receive the proper balance of phosphorous and calcium. This condition usually occurs at 4–9 months of age, and often is the result of diets rich in beef muscle, heart, or liver (Cisin, 1967).

Ocelots may be trapped using wire box traps (108 by 55 by 40 cm) baited with a live chicken, or a no. 2 coil-spring leghold trap with padded offset jaws and a swivel chain. Use of trained dogs is not recommended because of an increased risk of injury to the ocelots (Tewes and Schmidly, 1987). In southern Texas, capture rates per 100 trap nights were 0.73 in spring, 0.76 in summer, 1.06 in autumn, and 1.54 in winter (Laack, 1991). Ocelots may be sedated intramuscularly with ketamine; after injection the researcher should leave to reduce stress (Laack, 1991; Seal and Kreeger, 1987; Tewes and Schmidly, 1987). Induction with ketamine ranges from 1.5 to 15.0 min depending on the dosage level (Tewes, 1986), averaging 3 min for subadults and 9 min for adults. Recovery time is ca. 2 h for subadults and 4–5 h for adults (Laack, 1991). The sedated ocelot should then be placed so as to facilitate the flow of saliva. When tracking ocelots, a butyl collar with a 125-g transmitter and a partially internal antenna has proven effective (Tewes and Schmidly, 1987).

Captive ocelots housed alone require a minimum area of 25 m^2, and breeding animals need 2.5–3.0 times this area. Enclosures should be of double wire with a gap, 2.4–3.0 m high, containing a network of branches. Houses should be ca. 2.5 by 2.5 m, with the eaves 2.5 m high and contain sleeping boxes and shelves of varying heights. Houses should be at 13°C throughout winter, with heating systems capable of maintaining 21°C in case of illness (Mansard, 1989, 1991). Enclosures should not be cleaned with disinfectants containing phenol (Ashton and Jones, 1988). Ocelots should receive a varied diet including whole carcasses, be fed individually at least twice per day, and never be fasted (Ashton and Jones, 1980; Leclerc-Cassan, 1976; Mellen, 1991).

BEHAVIOR. In Texas, ocelots are active 21% of the day and 76% of the night (Navarro, 1985). However, on Barro Colorado Island, Panama, ocelots may be active at any hour. One ocelot was trapped during mid-day; most others were observed before 0900 h and two were seen at night (Enders, 1935). Ocelots usually rest in a den site from shortly after dawn until afternoon. In Venezuela, activity level is 36% during the day, increases at sunset, and is 72–92% until dawn (Ludlow, 1986). In Peru, activity increases markedly between 1600 and 1830 h and peaks at midnight. After midnight, activity peaks for males lag 2 h behind peaks for females. After midnight, activity levels drop slightly, rise again a few hours later, then drop dramatically around sunrise (Emmons, 1988). In Texas, changes in activity pattern are associated with onset of sunrise and sunset, with activity declining sharply at sunrise and increasing rapidly at sunset. In winter, ocelots are active earlier and stay active longer (Laack, 1991).

In both Belize and Venezuela, diurnal activity is more frequent on rainy or overcast days (Konecny, 1989; Sunquist, 1992), and in Venezuela diurnal activity increases significantly from the dry to the wet season (Ludlow and Sunquist, 1987). Nighttime activity patterns remain highly synchronous, and usually 2 h of activity are followed by 1 h of inactivity (Ludlow and Sunquist, 1987). In Peru, males rest 1.1 ± 1.0 times/night and females rest 1.8 ± 1.1 times/night. Males walked without rest on 30% of the nights they were observed, while females walked continuously on only 6% of the nights they were tracked (Emmons, 1988). Movement patterns reflect activity times of major prey items, as eight of nine species of small (<1 kg) mammals taken by ocelots are nocturnal (Konecny, 1989; Ludlow and Sunquist, 1987).

Behavior may be affected by overcast days in Belize and Venezuela (Konecny, 1989; Sunquist, 1992), but it is not as affected by moonlight in Peru. On moonlit nights, ocelots tend to be more active in the last hour of daylight and less active from 0030 to 0300 h. Activity peaks and minima are at the same times, with maximal activity during the first 6 h of the night. Ocelots did not differ in time spent traveling or distances moved on full-moon or dark-moon nights. Ocelots avoid open areas on moonlit nights just as they avoid open areas during the day. Although they tend to use trails, ocelots show a steady decrease in use of trails from the week of the new moon to a minimum just prior to the full moon. This change seems correlated with that of their prey. In bright moonlight, small animals are more visibile and must take cover in underbrush to avoid exposure to predators. Moonlight may hinder ocelots by forcing them to hunt in a different pattern under cover and by limiting their ability to approach prey unseen (Emmons et al., 1989).

The primary hunting tactic is extensive walking until a small animal is encountered. *L. pardalis* also will rush at large birds or crouch in wait on logs, then pounce on rodents passing below (Emmons, 1987, 1988). They will hold struggling prey instead of releasing and attacking again. This may be an adaptation to both bird-killing and fishing, because either animal will likely escape if let go. Another adaptation to bird-killing is the reduced tendency to ambush, since hesitation may mean the loss of a meal (Ewer, 1973). When the ocelot catches a bird, it will pluck it neatly before consuming it (Leyhausen, 1990). There are no data to indicate that ocelots hunt by stalking their prey, a hunting tactic common to many felids (Ewer, 1973). Olfactory cues have been thought of as unimportant for prey location, but one researcher noted a rabbit hopping along a trail followed by an ocelot with nose to the ground a few minutes later (Emmons, 1988). Once prey has been caught, ocelots begin feeding at the head end of their prey, although feeding on larger prey may be started at the neck to detach the head. If the prey is large, ocelots begin feeding at the belly or the haunches. Ocelots usually stay with their kills, but if the kill provides too much food to consume at one sitting, they will cover the remains and retrieve it the next night (Kitchener, 1991).

In moving from one area to another, ocelots use corridors such as gallery forest, strips of dense brush 5–100 m wide, and drainage systems (Laack, 1991; Ludlow and Sunquist, 1987; Sunquist, 1992). In hunting, ocelots move at a slow, steady walk with an occasional pause, and average ca. 0.3 km/h. When ocelots move without apparent attempts to hunt, they may move 0.8–1.4 km/h, a rate often used by males patrolling territory boundaries (Emmons, 1988; Sunquist, 1992). During these extensive walks, ocelots mark trails and home ranges. Both males and females participate in such behaviors as clawing at logs and spraying trailside vegetation with urine. Ocelots also tend to defecate at selected sites in their home ranges, and feces may accumulate at such latrines for several months during the dry season. These latrines may be used by more than one ocelot, and they generally are under shelter and situated so that the ocelot may back up to an object. Both males and females leave their feces prominently on trails. Feces generally are deposited on sandy substrate along the edge of a river, lake, or stream, and often on territorial boundaries. When urinating, ocelots will clear a space, usually 10 by 15 cm, but not cover the area when finished (Eisenberg, 1989; Emmons, 1987, 1988; Enders, 1935; Ewer, 1973). Such trail-marking may be temporal avoidance (Emmons, 1987).

Temporal and spatial avoidance is especially prominent during reproductive periods when females intensify patrolling and marking behavior. In Peru, there was virtually no overlap in the adjacent territories of two reproductive females (Emmons, 1988). Females, having sole responsibility of raising young and thus increased energy requirements, use their ranges more intensively. Males, however, are adapted to the distribution of females. Because a single male's territory overlaps those of several females, the male must range further to meet energy requirements and to check on the reproductive condition of females in the area (Ludlow and Sunquist, 1987; Sunquist, 1992).

Excellent climbers, ocelots frequently sleep in trees during the day. Several ocelots may use the same rest sites but not at the same time. *L. pardalis* will rest in sheltered areas such as tangled treefalls, buttress cavities between roots of large trees, matas (hammocks), brushpiles, and culverts (Emmons, 1988; Ludlow and Sunquist, 1987). Ocelots use many rest sites within their territory, but it is uncommon for an ocelot to use the same site on sequential days except as a den for a litter (Emmons, 1988). Distances between daytime rest sites of animals with overlapping home ranges indicate that, other than presumed mating associations, adult ocelots are solitary, and usually rest 600–1,200 m apart (Ludlow and Sunquist, 1987).

Despite the ocelot's solitary nature, they do interact. In Peru, 19 of 37 interactions occurred between adults and their presumed young or between adults and other subadults. Two subadult males did not try to avoid their presumed father, and one even sought out the company of his father. No interactions between territorial males were recorded, but the body of a subadult was found that appeared to have been killed by another ocelot. The same study documents the displacement of an old male by a middle-aged ocelot and the displacement of an old female by a middle-aged female—a process which took 6–7 months. There were four apparent cases of direct territorial defense by females against other females. Male-female interactions occur both during and outside breeding periods, and three of the six interactions were brief meetings, often resulting in one animal following the other briefly. Although territories of each female may be overlapped by the territory of only one male, nearby males may have access to her during breeding, giving females some choice of mates (Emmons, 1988). Research on wild populations indicates mating occurs at night, and in one mating association in Venezuela the male and female were together for 7 h (Ludlow, 1986).

The most detailed information concerning mating behavior comes from a pair at the Ridgeway Trust, United Kingdom (Mansard, 1990*a*). They were seen head-rubbing through the wire of their cages, and soon afterwards, the female came into estrus. Estrus was detected by the behavior of the male, who followed the female making soft calls and sniffing her ano-genital region and her urine. Estrus generally is accompanied by increased scent-marking from both partners, and both sexes may reduce their food intake. When housed together, mutual grooming took place and they nearly always slept together. The female at first took to a high branch and repelled any approach from the male by growling and striking the male with her front feet. After 1–2 days she became noisy, emitting a purring growl, and began rolling. Ca. 3 days later she solicited mating and did not become quiet until the end of the estrous period. If conception has not taken place, she will begin calling again in ca. 5 days (Mansard, 1990*a*, 1990*b*, 1991).

One male was born 77 days after the last observed mating, but was killed almost immediately by the male who accidently gained access to the den. Fifteen days later the female started calling again. She called for four 6-day periods over 38 days, and copulation was observed on each occasion, mainly during early morning and evening. Two days after the last mating, the female became defensive toward the male, and the two were separated. The female subsequently gave birth to a healthy male. After the first 2 days, the newborn made no noise other than purring when feeding, and at 6 days, it tried to stand. His eyes opened at ca. 2 weeks. When he was 23 days old, the mother began to leave it for increasing periods, up to 30 min. The young attempted to leave the den at 31 days. At 57 days, it was seen eating part of a chicken, and at 60 days it ate a whole mouse. The father never showed aggression towards the kitten, even when the kitten began to assert himself and actively scent-marked at 5.5 months of age. He sometimes made threat postures at his father, but its father did not retaliate, remained playful, and did not spray in response (Mansard, 1990*a*).

In the wild, young are born in a hollow tree, rocky bluff, cave, thorny thicket, or other secluded den (Davis, 1974). One ocelot den in southern Texas measured 34 cm in diameter, had >95% canopy closure over it in the shrub layer, but was not concealed from the sides. Other dens have been found without any canopy closure but were completely concealed in grass (Laack, 1991). From observation of captive ocelots, near term the female will spend more time in the nest box and show a lack of appetite (Mansard, 1991). In wild populations females with litters behave similarly, travelling only at night for several days and remaining in the same site during the daylight hours. The mother stays close to the den for the first 3–4 weeks but may move her kittens from den to den. Mothers may move young when the den becomes soiled, when trails leading to the den have become worn, or possibly to aid temperature regulation. Ocelots in Texas used dens for 13–64 days, averaging 30.5 days/den, with an inter-den distance of 133 m (Laack, 1991).

Because males have no active role in caring for the young, females must increase their activity levels during lactation. One female, caring for a litter ca. 1 month old, increased the time she spent moving in a 24-h period from her usual 40% to 93%, and walked for 12 h, covering 9 km between 1800 and 0600 h. Upon losing her litter, her activity decreased to 52% of the 24-h day (Emmons, 1988). In Texas, females with small kittens spent 89% of daylight and 33% of evening hours at their dens. They spent a mean of 8.4 h away from the den per night, with no apparent relationship between age of young and number of hours the mother was away. Generally, mothers made only one trip away from the den per night, but 29% of the time they returned once for 1–2 h and left again (Laack, 1991).

Although the age at which ocelots disperse is variable, many subadults do not disperse until ca. 2 years of age (Ludlow and Sunquist, 1987). In Texas, one ocelot dispersed at 14.5 months old, three dispersed at 18–23 months, and four were 30–35 months old (Laack, 1991). In Peru, dispersal begins by the time young reach 80% of adult mass (Emmons, 1988). In Guárico, Venezuela, one subadult male dispersed 10 km north and another went 12 km south (Ludlow, 1986). In Texas, two young adult males survived after dispersing 10 km and 3.5 km northward during winter into areas not previously occupied (Navarro, 1985). Also in Texas, a young male dispersed 13 km southwest during the summer, but died presumably as a result of a major fracture of the zygomatic arch sustained from a collision with a car (Tewes, 1986). Pooling data from Emmons (1988), Navarro (1985), and Tewes (1986) shows that four of eight ocelots that dispersed died shortly after leaving their natal ranges (Ludlow and Sunquist, 1987).

Despite occasional aggression, ocelots are docile animals. Even when trapped and faced with death, they remain placid (Cahalane, 1947). If spotted in trees, they usually climb down and slip into the forest, preferring to avoid questionable encounters. If pursued, ocelots are excellent swimmers but will not enter the water unless absolutely necessary (Guggisberg, 1975).

GENETICS. The diploid number of chromosomes is 36 and the fundamental number is 70 (Collier and O'Brien, 1985; Dubost and Royère, 1993). The karyotype consists of 34 metacentric, submetacentric, or subtelocentric autosomes. The X chromosome is submetacentric and the Y chromosome is a minute submetacentric (Hsu and Benirschke, 1967). Electrophoresis showed there was polymorphism at 10 of 25 loci among six ocelots sampled (Newman, et al., 1985). Extending this study to include additional loci also examined in the cheetah (*Acinonyx jubatus*), 20.8% of 48 loci were polymorphic, and the average heterozygosity was 0.072 (O'Brien et al., 1985).

In captivity, the ocelot hybridizes with the other small South American spotted cats such as the margay (*L. wiedii*), tiger cat (*L. tigrinus*), Geoffroy's cat (*O. geoffroyi*), and the kodkod (*Oncifelis guigna*), but they do not interbreed in the wild (Newman et al., 1985). In French Guiana, a male ocelot and a female puma (*Puma concolor*) raised and housed together produced four litters. The cubs showed intermediate body size and spot pattern, but more closely resembled the ocelot. Body measurements for eight of the newborn hybrids showed a lighter birth mass than ocelots (average of 258 versus 278 g), but a larger body size (average of 216 versus 189 mm–Dubost and Royère, 1993).

CONSERVATION STATUS. The greatest threat to the survival of the ocelot is habitat destruction; Amazonia is the ocelot's last major stronghold (Mansard, 1990*a*). In South America, forests are converted to pastures and croplands. In the wooded areas of the western llanos, for example, deforestation has proceeded at a rate of 50,000 ha/year since 1950 (Mondolfi, 1986). The Texas population is reduced each year from deaths related to predator-control activities directed at other species as well as from the clearing of brush in the Rio Grande Valley. By 1960, 99% of ocelot habitat in southern Texas was cleared for agriculture and urbanization (Brown, 1989). Subsequently, ocelots are found only on a few disjunct tracts of thorn forest and must travel great distances to secure enough habitat to survive, crossing several roads in the process (Laack and Tewes, 1989; Tewes, 1990). Estimated annual rate of mortality in southern Texas is 29%, with most mortalities known or suspected to be caused by collisions with automobiles (Tewes, 1986). These collisions usually occur at intersections of roads and creeks or along densely vegetated riparian strips (Tewes and Everett, 1986). About 100 ocelots exist in the United States; the largest population of ca. 40 exists at the Laguna Atascosa National Wildlife Refuge (Rappole, 1988).

Easily trapped and shot, the ocelot has been one of the most heavily exploited cats in international trade (Broad, 1987). In the late 1960s, ca. 80,000 ocelots were killed annually in Brazilian Amazonas (International Union for Conservation of Nature and Natural Resources, 1982). Ocelot furs are used in coats, taking an average of 13 pelts/garment (Kitchener, 1991). Until recently, hunting for fur has been the main reason for its threatened status, but the number of skins in legal international trade has declined from a total net trade of 34,520 skins in 1978 to 560 skins in 1985, although 1983 reached a peak of over 69,000 skins (Broad, 1987). Based on life history traits, Sunquist (1992) doubts that ocelot populations would be able to tolerate the annual removal of more than 2–3% of the population. Yet, despite protection by CITES regulations and changes in fashion design, illicit trade continues (Broad, 1987).

The pet trade can be as harmful to a species as trapping for the sale of skins (Guggisberg, 1975). Hunters steal young from the den or club the mother over the head so as not to damage the pelt, take the young to be sold as pets, and sell their mother's pelt. Many young die, however, before they reach homes or pet stores (Cisin, 1967). From 1968 to 1972, the United States imported 2,083 live ocelots (Clapp, 1974), but during 1982–1984 <100 live specimens were imported (Jorgenson and Jorgenson, 1991).

The ocelot is protected by international regulations, and most countries in which it occurs prohibit hunting and trading. However, enforcement is lax or non-existent, and the numbers taken in illegal trade are unknown (International Union for Conservation of Nature and Natural Resources, 1982). For example, Brazil passed a law in 1967 prohibiting the killing of wild animals for profit, but in 1969 Brazil exported 81,226 ocelot skins to the United States. Peru also has an enforcement problem. Although intended to protect the ocelot, Peru's 1970 law prohibiting ocelot hunting only led to a shift in the fur trade from Peru to Colombia. There is circumstantial evidence that hunting is reducing ocelot populations in South America, because hunters travel farther every year to kill the same number of ocelots they killed in previous years. Many even hunt in Xingu National Park, Brazil (Myers, 1973).

Initially *L. pardalis* was overlooked for endangered status in the United States in 1972, but the error was corrected with a separate rule in July 1982. This ruling protected the ocelot in Texas and Arizona, although the Texas population had been protected by state law since 1977 (Laack, 1991). The ocelot was protected in 1973 when Felidae (except *Felis silvestris*) was listed under CITES Appendix II, and two subspecies, *L. p. aequatorialis* and *L. p. mitis*, were listed on the Appendix I list of endangered species, making hunting and importation illegal (International Union for Conservation of Nature and Natural Resources, 1982). Currently, however, all subspecies of the ocelot are listed on CITES Appendix I (Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1992). The United States is trying to increase the amount of land under the jurisdiction of federal, state, and private organizations from 13,355 to 43,504 ha in an effort to protect the ocelot and 114 other species occurring in Texas (Brown, 1989).

National parks and reserves designed to preserve ocelots should be of sufficient size to ensure that adequate populations exist within their boundaries. In Guárico, Venezuela, the density was ca. 0.4 ocelots/km^2 for animals that predominately used gallery forest (Ludlow and Sunquist, 1987), but in Peru the common density was estimated at 0.8 ocelots/km^2 (Emmons, 1987; Robinson and Redford, 1989). For a density of ca. 1 individual/km^2, an area of 2,622 km^2 is needed to support a population of 500 individuals (Redford and Robinson, 1991). Because one male typically mates with several females, 1,334 individuals are needed to reach an effective population size of 500. This means that the original calculation of 2,622 km^2 would support a density of only 0.4 ocelots/km^2 (Ludlow, 1986).

Brown (1989) suggests that future efforts to protect the ocelot should extend to preserve remaining tracts of Tamaulipan riparian semideciduous forest and dense thornscrub in south Texas and northeastern Mexico known to support populations of ocelots. In addition, corridors are needed to connect the few remaining populations. In these areas, leg-hold traps and neck snares need to be banned, and trappers should be required to check their traps daily (Brown, 1989; Tewes and Everett, 1986). Cleared areas should be allowed to revert to brush either naturally or by planting preferred vegetation, and clearing should be strictly prohibited (Brown, 1989). If ocelots fail to move into these areas or other suitable habitat, then the possibility of restocking the population with captive bred or translocated individuals may be considered, although previous efforts have been met with mixed success, as some ocelots have returned to their original natal range (Brown, 1989; Laack and Tewes, 1989).

REMARKS. The ocelot's association with man can be traced back through the Aztec and Inca civilizations, both of which portrayed the ocelot in their art (Cisin, 1967). The name, ocelot, originally was French, and was derived from the Nahuatl word "ocelotl," a jaguar. Its specific epithet came from the Latin, *pardus*, meaning a panther or a leopard, and the Latin suffix, *-alis*, meaning relating to (Gotch, 1979). The ocelot often is called tigre and tigrillo in Veracruz (Hall and Dalquest, 1963). In the Venezuelan mainland it also is called cunaguaro and manigordo (Mondolfi, 1986). In Peru, the common names include tigrillo, ocelote, gato onza, pumillo, hualperro, gallerino, mathuntori, and canunii (Grimwood, 1968). Other common names include gato-maracajá (Brazil and Paraguay), maracajú-açu and gato mourisco (Brazil), tiger cat (Belize), manigordo (Costa Rica and Panama), gato tigre and tigre chico (Panama). The ocelot is called onsa and yaguareté-í in the Guarani language, and in the Saramaca language it is known as tigri-kati (Emmons, 1990).

We thank T. L. Best for guidance in preparing this manuscript and for preparing Fig. 3, C. H. Kilgore for preparing Fig. 1, and two anonymous reviewers for their many helpful comments. The personnel in the Interlibrary Loan Department at Auburn University R. B. Draughn Library assisted in obtaining articles from other institutions, and A. Hutchinson at the National Museum of Natural History Branch Library aided in locating rare books.

LITERATURE CITED

Allen, J. A. 1904*a*. Mammals from southern Mexico and Central and South America. Bulletin of the American Museum of Natural History, 20:29–80.

———. 1904*b*. New mammals from Venezuela and Colombia, Bulletin of the American Museum of Natural History, 20:327–336.

———. 1906. Mammals from the states of Sinaloa and Jalisco, Mexico, collected by J. H. Batty during 1904 and 1905. Bulletin of the American Museum of Natural History, 22:191–262.

———. 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.

Ashton, D. G., and D. M. Jones. 1980. Veterinary aspects of the management of non-domestic cats. Proceedings of the Symposium of the Association of British Wild Animal Keepers, 4:12–22.

Ball, R. 1844. [no title]. Proceedings of the Zoological Society of London, 12:128–129.

Berta, A., and L. G. Marshall. 1978. South American Carnivora. Fossilum catalogus I: animalia, pars 125. W. Junk, The Hague, 48 pp.

Bisbal, F. J. 1983. Dos nuevos mamiferos para la Isla de Margarita Venezuela. Acta Cientifica Venezolana, 34:366–367.

———. 1986. Food habits of some Neotropical carnivores in Venezuela (Mammalia, Carnivora). Mammalia, 50:329–340.

Boitard, M. 1842. Le jardin des plantes description et moeurs des mammifères de la ménagerie et du muséum d'histoire naturelle. J.-J. Dubochet, Paris, France, 472 pp.

Brass, E. 1911. Aus dem Reiche der Pelze. Im Verlage der Neuen Pelzwaren-Zeitung, Berlin, Germany, 709 pp.

Bravo-Hollis, M., and J. C. Deloya. 1973. Catálogo de la colección helmintológica del instituto de biología. Instituto de Biología, Universidad Nacional Autónoma de México, Publicaciones Especiales, 2:138.

Brenes, R. R., A. Ruiz, and J. K. Frenkel. 1972. Discovery of *Lagochilascaris* sp. in the larynx of a Costa Rican ocelot (*Felis pardalis mearnsi*). The Journal of Parasitology, 58:978.

Brenes, R. R., R. Zeledon, and G. Rojas. 1980. Biological cycle and taxonomic position of a Costa Rican *Paragonimus* and the present status of *Paragonimus* from the New World. Brenesia, 18:353–366.

Brennan, J. M., and C. E. Yunker. 1966. The chiggers of Panama. Pp. 221–266, *in* Ectoparasites of Panama (R. L. Wenzel and V. J. Tipton, eds.). Field Museum of Natural History, Chicago, 861 pp.

Broad, S. 1987. International trade in skins of Latin American spotted cats. Traffic Bulletin, 9:56–63.

Brown, D. E. 1989. The ocelot. Pp. 421–433, *in* Audubon wildlife report (W. J. Chandler, ed.). Harcourt Brace Jovanovich, San Diego, California, 585 pp.

Burt, W. H. 1961. A fauna from an Indian site near Redington, Arizona. Journal of Mammalogy, 42:115–116.

Cabrera, A. 1957. Catalogo del los mamiferos de America del Sur. Revista del Museo Argentino de Ciencias Naturales "Bernardino Rivadavia," Instituto Nacional de Investigacion de las Ciéncias Naturales, Ciencias Zoológicas, 4:1–307.

Cahalane, V. H. 1947. Mammals of North America. The Macmillan Company, New York, 680 pp.

Cameron, T. W. M. 1936. Studies on the endoparasitic fauna of Trinidad III. Some parasites of Trinidad carnivores. Canadian Journal of Research, 14:25–38.

Cisin, C. 1967. Especially ocelots. Harry G. Cisin Publisher, Amagansett, New York, 168 pp.

Clapp, R. B. 1974. Mammals imported into the U.S. in 1972. United States Department of the Interior, Fish and Wildlife Service, Special Scientific Report, Wildlife, 181:1–46.

Collier, G. E., and S. J. O'Brien. 1985. A molecular phylogeny of the Felidae: immunological distance. Evolution, 39:473–487.

Convention on International Trade in Endangered Species of Wild Fauna and Flora. 1992. Appendices I, II, and III to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. United States Fish and Wildlife Service, Department of the Interior, Washington, D.C. 22 pp.

Crawshaw, P. G., Jr., and H. B. Quigley. 1989. Notes on ocelot movement and activity in the Pantanal region, Brazil. Biotropica, 21:377–379.

Cuvier, F. 1820. Le chati femelle. Pp. 139–141 *in* Histoire naturelle des mammiferes (E. Geoffroy Saint-Hilaire and F. Cuvier, eds.). Paris, France, 2:1–3, plate 137 (as issued) or 1: 139–141 (as intended by publisher).

Davis, W. B. 1974. The mammals of Texas. Texas Parks and Wildlife Bulletin, 41:1–252.

Denis, A. 1964. Cats of the world. The Riverside Press Cambridge, Cambridge, United Kingdom, 144 pp.

Dubost, G., and J. Royère. 1993. Hybridization between ocelot (*Felis pardalis*) and puma (*Felis concolor*). Zoo Biology, 12: 277–283.

Dunn, G. L. 1974. Use of a domestic cat as foster mother for an ocelot. International Zoo Yearbook, 14:218–219.

Eaton, R. 1976. Why some felids copulate so much. Pp. 73–94 *in* The world's cats: contributions to biology, ecology, behavior and evolution (R. L. Eaton, ed.). Carnivore Research Institute, Seattle, Washington, 3:1–179.

———. 1977. Breeding biology and propagation of the ocelot (*Leopardus* [*Felis*] *pardalis*). Zoologische Garten, 47:9–23.

Eisenberg, J. F. 1989. Mammals of the Neotropics: Panama, Colombia, Venezuela, Guyana, Suriname, French Guiana. The University of Chicago Press, Chicago, 449 pp.

Emmons, L. H. 1987. Comparative feeding ecology of felids in a Neotropical rainforest. Behavioral Ecology and Sociobiology, 20:217–283.

———. 1988. A field study of ocelots in Peru. Revue d'Ecologie de la Terre et la Vie, 43:133–157.

———. 1990. Neotropical rainforest mammals: a field guide. The University of Chicago Press, Chicago, 281 pp.

Emmons, L. H., P. Sherman, D. Bolster, A. Goldizen, and J. Terborgh. 1989. Ocelot behavior in moonlight. Pp. 233–242, *in* Advances in Neotropical mammalogy (K. H. Redford and J. F. Eisenberg, eds.). The Sandhill Crane Press, Inc., Gainesville, Florida, 614 pp.

Enders, R. K. 1935. Mammalian life histories from Barro Colorado Island, Panama. Bulletin of the Museum of Comparative Zoology, 78:430–436.

Ewer, R. F. 1973. The carnivores. Comstock Publishing Associates, Ithaca, New York, 494 pp.

Fagen, R. M., and K. S. Wiley. 1978. Felid paedomorphosis, with special reference to *Leopardus*. Carnivore, 1:72–81.

Filho, D. A. M. 1963. *Oncicola chibigouzouensis* sp. n. parasito de *Felis chibigouzou* (Griff.) (Archiacanthocephala, Pachysentidae). Revista Brasileira de Biologia, 23:15–17.

Fischer, J. B., 1829. Synopsis mammalium, J. G. Cotta, Stuttgart, Germany, 752 pp.

Frye, F. L., and J. E. Cucuel. 1968. Rabies in an ocelot. Journal of the American Veterinary Medical Association, 153:789–790.

Frye, F. L., J. F. Detrick, E. C. Clement, and J. D. Carney. 1975. Pancreatic amyloidosis with consequent diabetes mellitus in an ocelot. Veterinary Medicine: Small Animal Clinician, 70:860–862.

Geoffroy Saint-Hilaire, E. 1855. Voyage autour du monde sur la frégate La Vénus. Gide et J. Baudry, Editeurs, Paris, France, 351 pp.

Glass, G. E., and L. D. Martin. 1978. A multivariate comparison of some extant and fossil felidae. Carnivore, 1:80–87.

Goldman, E. A. 1925. Two new ocelots from Mexico. Journal of Mammalogy, 6:122–124.

———. 1943. The races of the ocelot and margay in Middle America. Journal of Mammalogy, 24:372–385.

Gotch, A. F. 1979. Mammals—their Latin names explained. Blandford Press, Poole, United Kingdom, 271 pp.

Gray, J. E. 1842. Descriptions of some new genera and fifty unrecorded species of Mammalia. The Annals and Magazine of Natural History, series 1, 10:255–267.

———. 1867. Notes on the skulls of the cats (*Felidae*). Proceedings of the Scientific Meetings of the Zoological Society of London, 1867:258–277.

Greene, H. W. 1983. Boa constrictor. Pp. 380–381, *in* Costa Rican natural history (D. H. Janzen ed.). University of Chicago Press, Chicago, 416 pp.

Griffith, E. C. 1827. The animal kingdom arranged in conformity with its organization, by the Baron Cuvier. G. B. Whittaker, London, United Kingdom, 2:1–513, 5:1–391.

Grimwood, I. R. 1968. Notes on the distribution and status of some Peruvian mammals. American Committee for International Wild Life Protection and New York Zoological Society, Special Publication, 21:1–86.

Guggisberg, C. A. W. 1975. Wild cats of the world. Taplinger Publishing Company, New York, 328 pp.

Hall, E. R., and W. W. Dalquest. 1963. The mammals of Veracruz. University of Kansas Publications, Museum of Natural History, 14:165–362.

Handley, C. O., Jr. 1976. Mammals of the Smithsonian Venezuelan project. Brigham Young University Science Bulletin, Biological Series, 20(5):1–90.

Hatt, T. R. 1953. The mammals. Pp. 45–77, *in* Faunal and archaeological researches in Yucatan caves. Cranbook Institute Scientific Bulletin, 33:1–119.

Hendricks, L. D., J. V. Ernst, C. H. Courtney, and C. A. Speer. 1979. *Hammondia pardalis* sp. n. (Sarcocystidae) from the ocelot, *Felis pardalis*, and experimental infection of other felines. Journal of Protozoology, 26:39–43.

Hsu, T. C., and K. Benirschke. 1967. *Felis pardalis* (ocelot) 2n = 36. An atlas of mammalian chromosomes. Vol. 1, Folio 32, Springer-Verlag, New York, unpaged.

International Union for Conservation of Nature and Natural Resources. 1982. The IUCN mammal red data book. International Union for Conservation of Nature and Natural Resources, Gland, Switzerland, 1:1–516.

Jorgenson, J. P., and A. B. Jorgenson. 1991. Imports of CITES regulated mammals into the United States from Latin America: 1982–1984. Pp. 332–335, *in* Latin American mammalogy (M. A. Mares and D. J. Schmidly, eds.). University of Oklahoma Press, Norman, 468 pp.

Kerr, R. 1792. The animal kingdom, or zoological system, of the celebrated Sir Charles Linnaeus. Class I. Mammalia and Class II. Birds. Being a translation of that part of the Systema Naturae, as lately published, with great improvements, by Professor Gmelin of Goettingen, together with numerous additions from more recent zoological writers, and illustrated with copperplates. A. Strahan and T. Cadell, London, United Kingdom, 644 pp.

Kiltie, R. A. 1984. Size ratios among sympatric Neotropical cats. Oecologia (Berlin), 61:411–416.

Kingdon, J. 1977. East African Mammals: an atlas of evolution in Africa. Academic Press, London, 3A:1–476.

Kitchener, A. 1991. The natural history of the wild cats. Comstock Publishing Associates, Ithaca, New York, 280 pp.

Konecny, M. J. 1989. Movement patterns and food habits of four sympatric carnivore species in Belize, Central America. Pp. 243–264, *in* Advances in Neotropical mammalogy (K. H. Redford and J. F. Eisenberg, eds.). The Sandhill Crane Press, Inc., Gainesville, Florida, 614 pp.

Kurtén, B. 1965. The Pleistocene Felidae of Florida. Bulletin of the Florida State Museum, 9:215–273.

Laack, L. L. 1991. Ecology of the ocelot (*Felis pardalis*) in South Texas. M.S. thesis, Texas A&I University, Kingsville, 113 pp.

Laack, L. L., and M. E. Tewes. 1989. Utility of translocation for the ocelot recovery program. P. 29, *in* Caesar Kleberg Wildlife Research Institute annual report (F. S. Guthery, B. W. Davis, and N. E. Koerth, eds.). Texas A&I University, Kingsville, 41 pp.

LeClerc-Cassan, M. 1976. Conditions d'entretien et dominantes pathologiques de quelques carnivores sauvages. Recueil de Médecine Vétérinaire, 152:769–779.

Leyhausen, P. 1990. Cats. Pp. 576–632 *in* Grzimek's encyclopedia of mammals (S. P. Parker, ed.). McGraw-Hill Publishing Company, New York, 3:1–643.

Link, H. F. 1795. Beyträge zur Naturgeschichte. K. C. Stiller, Leipzig, Germany, 1(2):1–126.

Linné, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tenth ed. Laurentii Salvii, Stockholm, Sweden, 1:1–824.

Ludlow, M. E. 1986. Home range, activity patterns, and food habits of the ocelot (*Felis pardalis*) in Venezuela. M.S. thesis, University of Florida, Gainesville, 70 pp.

Ludlow, M. E., and M. E. Sunquist. 1987. Ecology and behavior of ocelots in Venezuela. National Geographic Research, 3: 447–461.

Mansard, P. 1989. Some environmental considerations for small cats. Ratel, 16:12–15.

———. 1990*a*. Breeding an ocelot kitten at Ridgeway Trust. Ratel, 17:16–20.

———. 1990*b*. Oestrous cycles and oestrous behaviour in the ocelot (*Felis pardalis*). Ratel, 17:180–183.

———. 1991. Ocelot. Pp. 92–102, *in* Management guidelines for exotic cats (J. Partridge, ed.). The Association of British Wild Animal Keepers, Bristol, United Kingdom, 153 pp.

Marteau, M. 1977. *Oncicola venezuelensis* n. sp. (Archiacanthocephala; Oligacanthorhynchida), parasite de l'ocelot (*Felis pardalis* L.). Annales de Parasitologie, 52:25–33.

Mearns, E. A. 1902. Description of a new ocelot from Texas and northeastern Mexico. Proceedings of the Biological Society of Washington, 14:145–148.

———. 1903. The ocelot cats. Proceedings of the United States National Museum, 25:237–249.

Mellen, J. D. 1991. Factors influencing reproductive success in small captive exotic felids (*Felis* spp.): a multiple regression analysis. Zoo Biology, 10:95–110.

———. 1993. A comparative analysis of scent-marking, social and reproductive behavior in 20 species of small cats (*Felis*). American Zoologist, 33:151–166.

Mondolfi, E. 1986. Notes on the biology and status of the small wild cats of Venezuela. Pp. 125–146, *in* Cats of the world: biology, conservation, and management (S. D. Miller and D. D. Everett, eds.). National Wildlife Federation, Washington, D.C., 501 pp.

Moorehead, W. K. 1968. The Hopewell mound group of Ohio. Field Museum of Natural History, Anthropological Series, publication 211, VI(5):1–186, 48 plates.

Myers, N. 1973. The spotted cats and the fur trade. Pp. 276–309, *in* The world's cats (R. L. Eaton, ed.). World Wildlife Safari, Winston, Oregon, 1:1–349.

Navarro, D. 1985. Status and distribution of the ocelot (*Felis pardalis*) in South Texas. M.S. thesis, Texas A&I University, Kingsville, 91 pp.

Newman, A., et al. 1985. Biochemical genetic variation in eight endangered or threatened felid species. Journal of Mammalogy, 66:256–267.

Norton, T. M., W. H. Adams, G. B. Kollias and V. L. Clyde. 1990. Medical and surgical management of benign prostatic hyperplasia, diskospondylitis, and penile paresis in an ocelot. Journal of the American Veterinary Medical Association, 197: 630–632.

O'Brien, S. J., et al. 1985. Genetic basis for species vulnerability in the cheetah. Science, 227:1428–1434.

Oliveira, T. G. de. 1994. Neotropical cats: ecology and conservation. São Luís, Brazil, 244 pp.

Pocock, R. I. 1917. On the external characters of Felidae. The Annals and Magazine of Natural History, Series 8, 11:113–136.

———. 1941*a*. Some new geographical races of *Leopardus*, commonly known as ocelots and margays. The Annals and Magazine of Natural History, Series 11, 8:234–239.

———. 1941*b*. The races of the ocelot and margay. Field Museum of Natural History, Chicago, 27:319–369.

Rappole, J. H. 1988. Ocelots' last stand. Defenders, 63:30–35.

Ray, C. E., S. J. Olsen, and H. J. Gut. 1963. Three mammals new to the Pleistocene fauna of Florida, and a reconsideration of five earlier records. Journal of Mammalogy, 44:373–395.

Redford, K. H., and J. F. Eisenberg. 1992. Mammals of the Neotropics: the southern cone. University of Chicago Press, Chicago, 430 pp.

Redford, K. H., and J. G. Robinson. 1991. Park size and the conservation of forest mammals in Latin America. Pp. 227–234, *in* Latin American mammalogy (M. A. Mares and D. J. Schmidly, eds.). University of Oklahoma Press, Norman, 468 pp.

Robinson, J. G., and K. H. Redford. 1989. Body size, diet, and population variation in Neotropical forest mammal species: predictors of local extinction? Pp. 567–594, *in* Advances in Neotropical mammalogy (M. A. Mares and D. J. Schmidly, eds.). University of Oklahoma Press, Norman, 468 pp.

Schinz, H. 1844. Systematisches Verzeichnis aller bis jetzt bekannten Säugethiere, oder, Synopsis mammalium, nach dem Cuvier'schen System. Verlag, Jent und Gassmann, Solothurn, Germany, 2 volumes, 587 pp.

SEAGER, S. W. 1977. Collection and freezing of semen of captive wild felidae. Pp. 112–119, *in* The world's cats: contributions to breeding biology, behavior and husbandry (R. L. Eaton, ed.). Carnivore Research Institute, Seattle, Washington, 3:1–144.

SEAL, U. S., AND T. J. KREEGER. 1987. Chemical immobilization of furbearers. Pp. 191–215, *in* Wild furbearer management and conservation in North America (M. Novak, J. A. Baker, M. E. Obbard, and B. Malloch, eds.). Ministry of Natural Resources, Concord, Ontario, Canada, 1150 pp.

SILVEIRA, E. K. P. DA. 1972. A case of cannibalism among ocelots *Felis pardalis mitis* at Brasilia Zoo. Pp. 182–183, *in* International zoo yearbook (J. Lucas and N. Duplaix-Hall, eds.). The Zoological Society of London, Regent's Park, London, United Kingdom, 12:1–416.

SUNQUIST, M. E. 1992. The ecology of the ocelot: the importance of incorporating life history traits into conservation plans. Memorias del Simposio Organizado por Fudeci, 1991:117–128.

SUNQUIST, M. E., F. SUNQUIST, AND D. E. DANEKE. 1989. Ecological separation in a Venezuelan llanos carnivore community. Pp 197–232, *in* Advances in Neotropical mammalogy (K. H. Redford and J. F. Eisenberg, eds.). The Sandhill Crane Press, Inc., Gainesville, Florida, 614 pp.

SWAINSON, W. 1838. Animals in menageries. Longman, Orme, Brown, Green, Longmans, and John Taylor, London, 373 pp.

TEWES, M. E. 1986. Ecological and behavioral correlates of ocelot spatial patterns. Ph.D. dissert., University of Idaho, Moscow, 128 pp.

———. 1990. Recent road-killed ocelots. Cat Conservation Newsletter, 1:2–3.

TEWES, M. E., AND D. D. EVERETT. 1986. Status and distribution of the endangered ocelot and jaguarundi in Texas. Pp. 147–158, *in* Cats of the world: biology, conservation, and management (S. D. Miller and D. D. Everett, eds.). National Wildlife Federation, Washington, D.C., 501 pp.

TEWES, M. E., AND D. J. SCHMIDLY. 1987. The Neotropical felids: jaguar, ocelot, margay, and jaguarundi. Pp. 697–711, *in* Wild furbearer management and conservation in North America (M. Novak, J. A. Baker, M. E. Obbard, and B. Malloch, eds.). Ministry of Natural Resources, Concord, Ontario, Canada, 1150 pp.

THOMAS, O. 1914. On various South-American mammals. The Annals and Magazine of Natural History, Series 8, 13:345–363.

WAGNER, J. 1841. Die Säugthiere in Abbildungen nach der Natur mit Beschreibungen. Supplementband. Bob'schen, Erlangen, Germany, 558 pp.

WERDELIN, L. 1985. Small Pleistocene felines of North America. Journal of Vertebrate Paleontology, 5:194–210.

WOZENCRAFT, W. C. 1993. Order Carnivora. Pp. 279–348, *in* Mammal species of the world: a taxonomic and geographic reference. Second ed. (D. E. Wilson and D. M. Reeder, eds.). Smithsonian Institution Press, Washington, D.C., 1206 pp.

Editors of this account were ELAINE ANDERSON, KARL F. KOOPMAN, AND DUKE S. ROGERS. Managing editor was BARBARA H. BLAKE.

J. L. MURRAY[1] AND G. L. GARDNER, DEPARTMENT OF ZOOLOGY AND WILDLIFE SCIENCE, 331 FUNCHESS HALL, AUBURN UNIVERSITY, ALABAMA 36849–5414.

[1] Present address: INSTITUTE OF ECOLOGY, UNIVERSITY OF GEORGIA, ATHENS, GEORGIA 30602.