

Catagonus wagneri. By John J. Mayer and Ralph M. Wetzel

Published 16 June 1986 by The American Society of Mammalogists

Catagonus Ameghino, 1904

Catagonus Ameghino, 1904:188. Type species *Catagonus metropolitanus* Ameghino, by original designation.

Parachoerus Rusconi, 1930:150. Type species *Platygonus (Parachoerus) carlesi* Rusconi, by original designation.

Interchoerus Rusconi, 1930:168. Type species *Catagonus (Interchoerus) bonaerensis* (Ameghino) by original designation.

?*Brasiliochoerus* Rusconi, 1930:160. Type species *Platygonus (Brasiliochoerus) stenocephalus* (Gervais) by first species rule.

CONTEXT AND CONTENT. Order Artiodactyla, Suborder Suina, Superfamily Suoidea, Family Tayassuidae, Subfamily Tayassuinae. The genus *Catagonus* includes only one living species, *Catagonus wagneri*, and the following fossil species: *C. bonaerensis* Ameghino, ?*C. carlesi* (Rusconi), *C. metropolitanus* Ameghino, *C. rebuffoi* (Rusconi), ?*C. stenocephalus* (Gervais), and ?*C. plattensis* (Ameghino). Species arrangement follows Wetzel (1977b) and not Paula Couto (1979, as amended) who used *Brasiliochoerus stenocephalus* (Lund, in Gervais).

***Catagonus wagneri* (Rusconi, 1930)**

Chacoan Peccary

Platygonus (Parachoerus) carlesi wagneri Rusconi, 1930:231. Type locality, pre-Hispanic deposits, Argentina, Santiago del Estero, Llajta Mauca.

Platygonus wagneri Rusconi, 1948:231.

Catagonus wagneri Wetzel, Dubos, Martin, and Myers, 1975:379.

CONTEXT AND CONTENT. Context noted above. *Catagonus wagneri* is monotypic.

DIAGNOSIS. The Chacoan peccary is larger and heavier than the collared peccary (*Tayassu tajacu*) in all external body measurements and mass, and larger than the white-lipped peccary (*Tayassu pecari*) in mass and all external body measurements except total length. Compared with the genus *Tayassu* the Chacoan peccary has a larger head and ears, and longer legs in proportion to body size. The Chacoan peccary has two hind toes, whereas the other two species have three hind toes. Because of the shoulder collar and grizzled hair, pelage of the Chacoan peccary is superficially similar to that of the collared peccary. It differs in detail from the latter in having longer hair, a whitish ruff on the jowls, a profusion of long, white hair in the ears, and somewhat paler legs. Pelage of the Chacoan peccary also appears paler because the alternating dark bands on the proximal portion of the hair are brown to tan, not vivid black. The adult white-lipped peccary lacks the collar of the other two species, having dark brown to black upperparts and with white underparts extending to the throat and distal rostrum. The hairs or bristles of the Chacoan peccary are coarse, with maximal diameters being twice as great as in *Tayassu*, yet the cortical layer is much thinner. Microscopically, hair of the Chacoan peccary shows shallow longitudinal grooves or undulations, but hair surface in the other two species is smooth and entire (Mayer and Brandt, 1982; Wetzel, 1977b).

The skull of *Catagonus wagneri* (Fig. 1) differs from that of *Tayassu* in having extreme development of the rostrum, nasal chambers, and sinuses; the braincase is proportionately and often actually smaller; the infraorbital foramen is well anterior to the zygomatic arch; the pronounced articular fossa on the anterior face of the zygomatic arch as found in *Tayassu* is absent; the zygomatic bar below the orbit is deeper than in *Tayassu*; the orbit is more ventrally directed and posterior in position, its anterior edge well posterior to the pregenoid process; and there is a pronounced basicranial flexure as in *Platygonus* (Mayer and Brandt, 1982; Wetzel, 1977b).

The teeth are hypsodont and large in both breadth and length, exceeding the tooth size of all peccaries except other members of the genera *Catagonus* (including *Brasiliochoerus* Rusconi, *Interchoerus* Rusconi, and *Parachoerus* Rusconi) and the *Platygonus* of the Upper Pliocene and Lower Pleistocene. The last premolars (P4 and p4) and all molars have four major cusps, numerous small cusps, and well-developed cingula. *Catagonus wagneri* has three major cusps on P3 rather than the two cusps on P3, P4, and p4 of *Platygonus*. The canines, as in *Platygonus*, are longer from alveoli to tips and, in proportion to that length, more slender than the shorter, broader canines of *Tayassu*. The number of incisors is the same as in *Tayassu*, failing to show the loss of i3 and the reduction in size of I2 of North American *Platygonus* of the Irvingtonian and Rancholabrean (Wetzel, 1977b).

GENERAL CHARACTERISTICS. *Catagonus wagneri* is a small- to medium-sized pig-like ungulate (Fig. 2). The dental for-

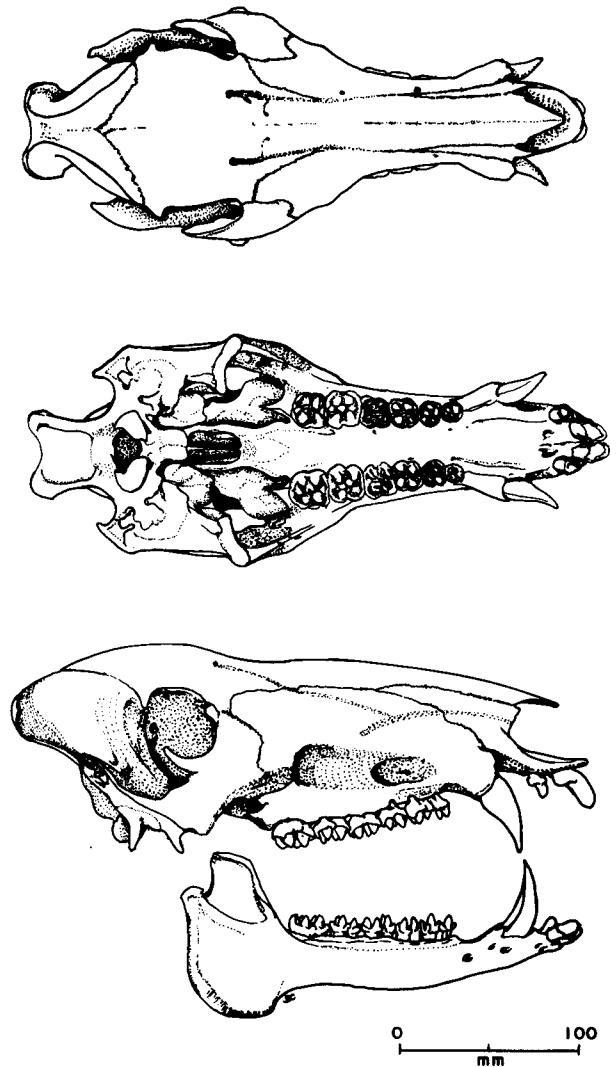


FIG. 1. Ventral, dorsal, and lateral views of cranium and lateral view of lower jaw of *Catagonus wagneri*, UCONN 18915, adult male, from km 570 of the Ruta Trans-Chaco, Depto. Nueva Asunción, Paraguay. Illustration by Jean Coleman.

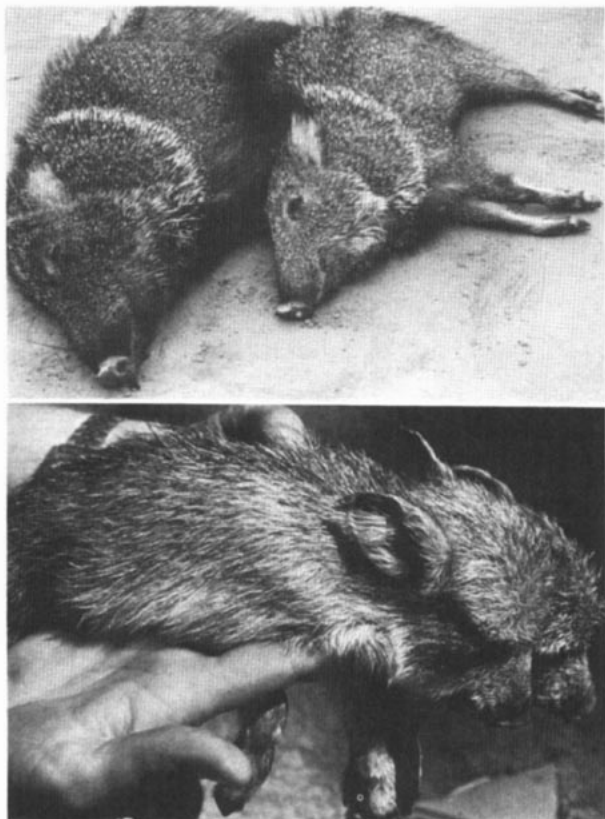


FIG. 2. Hunter-killed adult and yearling male (top) and two live 1-week-old male and female (bottom) *Catagonus wagneri* illustrating the general appearance and coat coloration pattern for this species. Photographs by John J. Mayer and Philip N. Brandt.

mula is as in other Recent tayassuids: i 2/3, c 1/1, p 3/3, m 3/3, total 38 (Wetzel, 1977b). Upper canines are directed downward. Third and fourth metatarsals are fused proximally. Stomach is two chambered with a lateral diverticulum on either side of the secondary chamber. Hair is bristly. Snout has cartilage-supported rhinarial pad. Tail is greatly reduced compared with that of other suiforms. Caecum is present. Dorsal scent gland is located overlying the thoracolumbar fascia under the skin in the middorsal lumbar region of back (Mayer and Brandt, 1982; Wetzel, 1977b). External body measurements (in mm) and body masses (in kg) of adult Chacoan peccaries of both sexes are: total length, 1,091 (957 to 1,170, $n = 48$); length of tail, 62 (24 to 102, $n = 49$); length of hindfoot, 232 (206 to 257, $n = 50$); length of ear, 112 (100 to 122, $n = 57$); height at shoulder, 575 (520 to 690, $n = 42$); and mass (males and nonpregnant females), 34.7 (29.5 to 40.0, $n = 28$) (Mayer and Brandt, 1982; Wetzel, 1977b). One pregnant female was reported to weigh 43.5 kg. Length of bristles in adults of both sexes range from 184 to 225 mm middorsally, and from 80 to 150 mm laterally (Mayer and Brandt, 1982). Skull measurements (in mm) in adults are: condylobasal length, 265.8 (253 to 284, $n = 55$); occipitobasal length, 308.1 (295 to 320, $n = 55$); zygomatic breadth, 124.3 (115 to 133, $n = 57$); mandibular length, 197.2 (184 to 210, $n = 56$) (Mayer and Brandt, 1982; Wetzel, 1977b). Four pairs of mammae are present. Normally, there are four front and two hind toes (Mayer and Brandt, 1982). Mayer and Brandt (1982) found that 2.8% of a sample of 110 fetal and postnatal specimens had either unilateral or bilateral vestigial dewclaws on the hindfeet. Sexual dimorphism is not obvious in this species. Because the prepuce of males and the mammae of females are covered by long bristles, the sexes are almost impossible to distinguish at a distance in the field. The oval, brown to black scrotal patch is the only external feature useful for sex determination, then only to an observer less than 10 to 15 m from the animal (Mayer and Brandt, 1982). Female Chacoan peccaries average and range larger than males in most external measurements, but these differences are not significant. Three skull measurements were significantly different between the sexes: width of the occipital ridge was greater in females, and lengths and widths

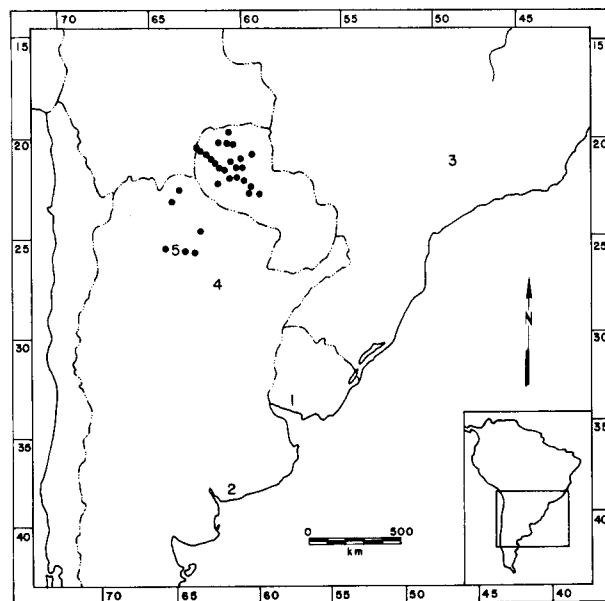


FIG. 3. Geographic distribution of *Catagonus wagneri* and related fossil genera and species. Solid dots are recent collection localities of *Catagonus wagneri*. Numbered localities are collection localities of the following fossil taxa: 1, *Platygonus rebuffoi*; 2, *Catagonus metropolitanus* and *Listriodon bonaerensis*; 3, *Dicotyles stenocephalus*; 4, *Platygonus carlesi wagneri*; and 5, *Platygonus carlesi*. Illustration by Jean Coleman.

of the upper canine alveolus were greater in males (Mayer and Brandt, 1982).

Pelage coloration of adult Chacoan peccaries is a grizzled gray-brown, black and white, with a black middorsal stripe and a white collar across the shoulders. The distal portions of the limbs and rostrum are mixed brown and black. The ventrum from the posterior throat to the pelvic region and the medial proximal half of each limb are mixed tan, brown, and black. The ears are white to cream on the inside and grizzled on the base, edge, and back (Mayer and Brandt, 1982).

Pelage coloration of the neonate to 3-month-old is a mixture of tan and black bristles, with a black middorsal stripe and a tan collar across the shoulders. The underside is white with a few scattered black bristles. Extreme distal rostrum, proximal limbs, and anterior edges of the forelimbs are grizzled brown to black (Mayer and Brandt, 1982).

DISTRIBUTION. The Chacoan peccary is restricted to the semiarid thorn forest and steppe of the Gran Chaco of Argentina, Paraguay, and Bolivia (Fig. 3). Most of its range is in the first two countries. Specimens of the Chacoan peccary have been collected from the Paraguayan departments of Boquerón, Chaco, and Nuevo Asunción, and from the western halves of the departments of Alto Paraguay and Presidente Hayes (Mayer and Brandt, 1982). Specimens and hunter reports from Argentina place this species in the western halves of the provinces of Chaco and Formosa, the northern quarter of the province of Santiago del Estero, and the eastern quarter of the province of Salta (H. Distilio, pers. comm.; Mayer and Brandt, 1982; Olrog et al., 1976; Wetzel, 1977b; Wetzel and Crespo, 1976). The range in Bolivia is known only from hunter reports that indicate that the Chacoan peccary occurs in the provinces of Chuquisaca, Santa Cruz, and Tarija (Mayer and Brandt, 1982). SOWLS (1984) stated that the range of the Chacoan peccary probably covers 139,600 km².

FOSSIL RECORD. The early history of *Catagonus* cannot be traced from available data. It probably evolved in the early Pleistocene from *Prosthenops*-like invaders of South America with large skulls and large molariform teeth (Wetzel, 1977a, 1977b). *Catagonus* is known from the Lower to Middle Pleistocene of Buenos Aires, Argentina (Ameghino, 1904; Rusconi, 1930), Middle Pleistocene to Recent in Santiago del Estero in western Argentina (Rusconi, 1930; Wetzel, 1977b), and Middle Pleistocene of Uruguay (Rusconi, 1952; Wetzel, 1977b). Rusconi (1930) reported

the occurrence of *Platygonus carlesi wagneri* in association with pre-Hispanic funeral urns, artifacts, and a large mammalian fauna from the vicinity of Melero in Santiago del Estero. Rusconi (1948) later raised *P. wagneri* to a species designation. Before 1975, *Catagonus wagneri* was known only as an extinct subfossil (Wetzel et al., 1975). Wetzel (1977a, 1977b) considered the Chacoan peccary a relict species which survived as a component of the Chaco dispersal center and was isolated during the Pleistocene in a single semiarid zoogeographic center, the Gran Chaco.

Catagonus wagneri also was considered a stunted relict of ancestral large peccaries with massive skulls, large canine buttresses, flared zygomata, but similar-sized molariform teeth (Wetzel, 1977b). A parallel trend occurred in the Pleistocene of North America, from the Blancan and Irvingtonian *Platygonus* to the smaller, more gracile skull of *Platygonus compressus* of the Rancholabrean. Further evidence was presented for this stunting of *C. wagneri* by considering its crowded, often twisted toothrows of massive molars and premolars, the reduced diastemas, and the large head with proportionately small body. This was based upon a gradient of decreasing evolutionary lability: limbs, breadth of skull, length of skull, and sizes of teeth (Wetzel, 1977b). Conversely, J. S. Fonsca (in Paula Couto, 1979, as amended) and Reig (1981) ignored the probability of this decreasing size gradient in the Pleistocene for *Catagonus* and raised to generic status the ill-defined subgenus *Brasiliochoerus* Rusconi (Wetzel, 1977b).

FORM AND FUNCTION. The teeth of *Catagonus wagneri* are functionally lophodont and more hypsodont than in *Tayassu*. The premolars and molars have numerous small cusps in addition to the major bunodont cusps. Wetzel (1977b) stated that the tooth structure of the Chacoan peccary indicated that the species was a browser. Although the teeth and skull have not been subjected to functional analysis as Kiltie (1981, 1982) did for *Tayassu*, the more slender mandible and less compact premolars and molars of *Catagonus wagneri* would not permit a bite force equivalent to that even in the small *Tayassu tajacu*. Therefore, it is not surprising that palm nuts (Palmae) are not included in the list of food items for *C. wagneri*.

Like *Platygonus* and certain other North and South American fossil peccaries, *Catagonus wagneri* has retained some of the morphological features associated with adaptation for a cursorial life in open, semiarid habitats. Compared with *Tayassu*, the Chacoan peccary has more elongated limbs and has lost some external dewclaws (not known for fossil South American species); both of these features indicate a cursorial form. The basicranial flexure of the skull required by the low eye position and long rostrum suggests an evolutionary adaptation for distant vision, useful for life in open habitats. Members of the genus *Tayassu*, with orbits set higher in the skull above a much shorter rostrum, do not require as much basicranial flexure and downward tilt of the head for efficient frontal vision. The extreme development of olfactory chambers and the elaborate sinus system of *Catagonus* could serve as both a dust trap and a well-developed olfactory system; the latter would require the former in dusty habitats (Wetzel, 1977b).

Wetzel (1977b) rated the closure of 22 cranial sutures for 45 *Catagonus wagneri* specimens by Herring's (1974) method. Of 22 sutures rated, 18 differed from *Tayassu* by more than 0.1 fusion score and one closure rank or more. Seven of the 22 sutures closed earlier and 10 sutures closed later than in *T. tajacu* and *T. pecari*. Fusion scores for internasal and basispheno-presphenoid sutures differed from the other species by more than 0.2 but fell between the scores of the two *Tayassu*. For the remaining three sutures scored, the fusion score in *Catagonus* was similar to that of *T. tajacu* for occipito-parietal and similar to *T. pecari* for interpremaxillary and basispheno-occipital (Wetzel, 1977b).

The mammae of the Chacoan peccary are arranged as one pair pectoral, two pairs abdominal, and one pair inguinal. The distance between the two mammae of each pair decreases from pectoral (38 to 48 mm) to inguinal (7 to 20 mm) positions. The distance between pairs also decreases from anterior (85 to 175 mm) to posterior (55 to 120 mm). One sow collected by Mayer and Brandt (1982) had only seven mammae, the normal inguinal and posterior abdominal pairs, and three scattered mammae from the anterior abdominal to the pectoral region. Two sows collected were lactating; the six posterior-most mammae were functional (Mayer and Brandt, 1982).

The dorsal scent gland is flattened, round-edged, and elongate. In adults, this gland is 55 to 87 mm long and 45 to 75 mm wide.

The gland exits dorsally through an external nipple on the back located 144 to 155 mm above the base of the tail in adults. The liquid scent can be expelled either by rubbing over the gland and nipple, or by squirting through muscular contraction (Mayer and Brandt, 1982).

ONTOGENY AND REPRODUCTION. Eleven pregnant Chacoan peccary females were collected from July through September in Paraguay. Seven of these were taken in August (Mayer and Brandt, 1982). Local Paraguayan hunters consistently reported one principal annual farrowing period extending from early September until early December for this species. Numbers of embryos in 11 pregnant females ranged from two to four and averaged 2.72; the sex ratio was 1:1.15 in favor of males. Ten neonatal litters observed in the field with adult females between September and November averaged 2.46 neonates and ranged from one to four (Mayer and Brandt, 1982). Ova migration from the side of ovulation to the opposite uterine horn for implantation was shown to occur in this species. Mayer and Brandt (1982) divided 11 Chacoan peccary fetal litters into five developmental groups based on body size and external appearance. No sexual dimorphism existed among the 28 collected embryos and fetuses. The order of development of external structures was consistent with that described for the collared peccary by Smith and Sowls (1975). The fetal Chacoan peccary body measurements were larger than those for collared peccaries of equally developed external appearance. The observed intrauterine mortality among the 11 fetal litters was 3.3%. Body mass of three 1-week-old Chacoan peccaries ranged from 678 to 763 g. The erupted tooth pattern in these three individuals included the third lower incisor and upper and lower canines. Neonate Chacoan peccaries are precocial and are able to travel with the rest of the herd when less than 1 week old (Mayer and Brandt, 1982).

ECOLOGY. The Chacoan peccary is endemic to the South American Gran Chaco, a vast aggrading alluvial plain formed by erosional material from the Andes Mountains (Eckel, 1959). This region is virtually flat with a grade of 1 m/2 km (Myers, 1982; Wetzel, 1977b). The Gran Chaco extends from southwestern Bolivia through western Paraguay and into northwestern Argentina (Wetzel, 1977b). Average monthly temperatures in the Gran Chaco of Paraguay and Argentina range from 13 to 30°C (calculated from Sowls, 1984). In the Gran Chaco of Paraguay, rainfall decreases from 1,400 mm/year adjacent to the Rio Paraguay to 400 mm/year along the western Paraguayan border (Wetzel, 1977b). Most of the Gran Chaco is covered with xerophytic thorn forest or dry Algarrobo-Quebracho-Palo Santo woodlands often with dense and spiny undergrowth (Short, 1975; Wright et al., 1964). These primary habitat types occupied by the Chacoan peccary (Mayer and Brandt, 1982) are bounded by the seasonally wet palm savanna or Pantanal to the east and north, the Tala-Mistol woodlands to the west, and the Chaco scrub-pampas ecotone to the south. The Chacoan peccary is not common in these three surrounding habitat types which apparently represent marginal habitats for the species (Mayer and Brandt, 1982).

Based on 70 stomachs examined, species of cacti were the major winter food item consumed (Mayer and Brandt, 1982). These included *Cleistocactus baumannii*, *Eriocereus* sp., *Opuntia discolor*, and *O. canina*. In addition, fallen flowers of the tree cacti *Stenonia cornye*, *Quiabentia chacoensis*, and *Cereus validus*, and roots and inner portions of various *Bromelia* sp. were consumed. The fruit pods of various species of *Acacia*, especially *A. aroma*, were reported to be eaten by Chacoan peccaries in early spring in Paraguay (Mayer and Brandt, 1982).

Pedophagy was commonly observed during the winter to spring months of 1975 to 1977 (Mayer and Brandt, 1982). The peccaries fed on soils from leaf-cutter ant (*Atta vollenweideri*) mounds. The duration of soil feeding ranged from 13 to 58 min. Analyses of soil from ant mounds and adjacent forest floor showed that mounds had significantly higher pH, conductivity, calcium, magnesium, chlorine, sodium, and percent organic matter. Comparisons of soil from ant mounds fed on and those not used by the Chacoan peccary revealed a significantly lower pH and higher concentrations of magnesium and chlorine in the former (Mayer and Brandt, 1982).

Population density of the Chacoan peccary as assessed by use of strip censuses was 9.24 km² (Mayer and Brandt, 1982). The locality in western Paraguay where this was determined was an area that comprised the primary habitat type for the species and where hunting was prohibited. This estimate of density, then, probably was

a maximum estimate for the species. Mayer and Brandt (1982) believed that the abundance of Chacoan peccaries was lower than this estimate in the heavily hunted surrounding areas. Based on the number of sightings and animals collected along the Trans-Chaco Highway in Paraguay, Mayer and Brandt (1982) reported that *C. wagneri* was most abundant between the Mennonite colony of Filadelfia at km 430 and the military outpost of Nueva Asunción at km 720. Numbers of Chacoan peccaries along this transect east and west of these points declined rapidly. According to local residents, populations of the Chacoan peccary have increased in density in the last 20 years in the central Chaco Boreal of western Paraguay. Wetzel (1977a) attributed the increase to great reduction of jaguar populations (*Felis onca*) in this region.

Based on numbers of cementum layers in permanent incisors of 48 hunter-killed Chacoan peccaries from the Paraguayan Chaco, Sowls (1984) reported the following age structure: 2 years, 13; 2 to 3 years, 15; 3 to 4 years, 2; 4 to 5 years, 6; 5 to 6 years, 3; 6 to 7 years, 3; 7 to 8 years, 2; 8 to 9 years, 2; greater than 9 years, 2. These findings, however, were not based on known-age reference material.

Over much of its range, the Chacoan peccary is sympatric with the collared and white-lipped peccaries. Mayer and Brandt (1982) suggested that the three species divided their sympatric habitats temporally, but interspecific competition of the three tayassuids has not been investigated. Scent from the dorsal gland of the three species may enable interspecific avoidance, thereby permitting sympatry (Mayer and Brandt, 1982).

Mayer and Brandt (1982) documented only one instance of non-human predation, that by two adult male mountain lions (*Felis concolor*); they also speculated that ocelots (*Felis pardalis*) were potential predators of immature Chacoan peccaries. Local hunters in the Chaco Boreal consistently named mountain lions and jaguars as the only predators of the Chacoan peccary (Mayer and Brandt, 1982).

BEHAVIOR. The Chacoan peccary is a highly social animal living in small herds of one to 10 (Mayer and Brandt, 1982; Sowls, 1984). From 148 herds observed, Mayer and Brandt (1982) determined an average herd size of 3.8. Sowls (1984) reported an average herd size of 4.3 animals based on 26 observations. Herds are composed of both sexes of various ages and probably represent extended family groups. A large number of solitary Chacoan peccaries also were observed (Mayer and Brandt, 1982).

From June to October, the Chacoan peccary is diurnal in its daily activity pattern, most of the activity occurring between 0600 and midday. Herds travel from their bedding areas to feeding areas shortly after sunrise. During the hot midday hours, herds rest under brush in the thorn forest or along roads under tall trees (Mayer and Brandt, 1982). This species does not seem to be active nocturnally during winter and spring months. It may become more nocturnal during summer months, because local Paraguayan hunters claim that fewer Chacoan peccaries are seen during the day at that time of year (Mayer and Brandt, 1982).

This species defecates in concentrated communal areas or scat stations; isolated peccary fecal droppings are uncommon (Mayer and Brandt, 1982). Scat stations are located in areas of intensive use such as leaf-cutter ant mounds and mud wallows, and along trails through the thorn scrub (Mayer and Brandt, 1982).

Chacoan peccaries use both mud and dust wallows. Based on observations taken on six occasions, no dominance interactions with a herd of six animals were seen at an artificial mud wallow (Mayer and Brandt, 1982). Herd use of this wallow averaged 12.5 min. Dust wallows used by this species were found along ranch roads, on leaf-cutter ant mounds, and along trails (Mayer and Brandt, 1982).

The functions of products of the dorsal scent gland seem to be the same as that suggested for the collared peccary, that is, holding the herd together, identifying individuals, and delineating herd territories (Mayer and Brandt, 1982). Chacoan peccaries mark on a variety of vegetation by rubbing it with the external nipple of their dorsal scent gland. Such scent posts are associated with areas of high use by Chacoan peccary herds such as scat stations, wallows, and ant-mound feeding sites. Chacoan peccaries also were observed to squirt liquid from the scent gland while fleeing with their bristles fully erect (Mayer and Brandt, 1982). These animals frequently groom or rub the sides of their heads on one another's scent glands. Both mutual-reciprocal and unreciprocated scent-gland grooming was observed among both wild and captive Chacoan peccaries (Mayer and Brandt, 1982; Sowls, 1984).

Mayer and Brandt (1982) found that aggressive behaviors, mannerisms, and attitudes of the Chacoan peccary were similar to those of the collared peccary. Squabbles or mutual threatening by two individuals were the most common non-fighting aggressive interactions observed. Tooth-chattering is uncommon in this species, and chatters include only one or two tooth clicks or impacts (Mayer and Brandt, 1982). Charging, biting, and whirl-arounds, described for the collared peccary (Schweinsburg and Sowls, 1972), were observed in the Chacoan peccary during dominance interactions and among younger animals frisking around. The listening posture, intense curiosity posture, and retreat described for the collared peccary (Schweinsburg and Sowls, 1972) also were seen in the Chacoan peccary (Mayer and Brandt, 1982). In addition, a "head-down" or "head-bowing" curiosity posture consisting of a quick bowing of the head downward, with ears erect, and bristles on head and shoulder erect was observed in this species. The head is held bowed momentarily or for as long as 20 to 30 s, and bows sometimes are repeated several times. A single "woof" usually accompanies the head bowing. This posture normally is alternated with the mild curiosity posture (Mayer and Brandt, 1982).

GENETICS. A chromosomal analysis of a male Chacoan peccary revealed a diploid number of $2n=20$. The karyotype was composed of all metacentric chromosomes with unusually large blocks of heterochromatin. The fundamental number was 40. Chromosomes of the Chacoan peccary differed in number and structure from those of the collared and white-lipped peccaries and suggest that the Chacoan peccary may be the most recently evolved of the three extant peccary species (Benirschke et al., 1985).

REMARKS. In Paraguay, the Chacoan peccary is referred to as Paguá, Taguá, or Curé-burro. The latter name is of combined Guaraní and Spanish origin and translates as pig-burro. It is used because of the proportionately longer ears on this species compared to those of the other two peccaries. In northern Argentina, this species is referred to as chanco-moreno or Curé-taguá (DiStilio, 1976; I. Feldman, pers. comm.) or, because of dietary preference for the cactus *Opuntia quimilo*, as Quimilero (Olog et al., 1976).

The Chacoan peccary is classified as threatened by the International Union for the Conservation of Nature and Natural Resources (Thornback and Jenkins, 1982). Habitat destruction and hunting are cited as the major threats to the continued existence of this species (Thornback and Jenkins, 1982); in areas disturbed for agricultural development, hunting quickly reduces herds. Areas of former high populations that no longer support the Chacoan peccary are now well known (Sowls, 1984). The future survival of this relict species is uncertain (Mayer and Brandt, 1982; Wetzel et al., 1975).

LITERATURE CITED

- AMEGHINO, F. 1904. Neuvas especies de mamíferos cretáceos y terciarios de la República Argentina (continuación). An Soc. Cient. Argentina, 58:182-192.
- BENIRSCHKE, K., A. T. KUMAMOTO, AND D. A. MERITT. 1985. Chromosomes of the Chacoan peccary, *Catagonus wagneri* (Rusconi). J. Hered., 76:95-98.
- ECKEL, E. B. 1959. Geology and mineral resources of Paraguay—a reconnaissance. Geol. Sur. Professional Paper, 327:1-105.
- HERRING, S. W. 1974. A biometric study of suture fusion and skull growth in peccaries. Anat. Embryol., 146:167-180.
- KILTIE, R. A. 1981. The function of interlocking canines in rain forest peccaries (Tayassuidae). J. Mamm., 62:459-469.
- . 1982. Bite force as a basis for niche differentiation between rain forest peccaries (*Tayassu tajacu* and *T. pecari*). Biotropica, 14:188-195.
- MAYER, J. J., AND P. N. BRANDT. 1982. Identity, distribution, and natural history of the peccaries. Tayassuidae. Pp. 433-455, in Mammalian biology in South America (M. A. Mares and H. H. Genoways, eds.). Spec. Publ. Ser., Pymatuning Lab. Ecol., Univ. Pittsburgh, 6:1-539.
- MYERS, P. 1982. Origins and affinities of the mammal fauna of Paraguay. Pp. 85-93, in Mammalian biology in South America (M. A. Mares and H. H. Genoways, eds.). Spec. Publ. Ser., Pymatuning Lab. Ecol., Univ. Pittsburgh, 6:1-539.
- OLROC, C. C., R. A. OJEDA, AND R. M. BARQUEZ. 1976. *Catagonus wagneri* (Rusconi) en el noroeste Argentino. Neotropica, 22:53-56.

- PAULA COUTO, C. DE. 1979. Tratado de Paleomastozoología. Academia Brasileira de Ciências, Rio de Janeiro, 590 pp.
- REIG, A. O. 1981. Teoría del origen y desarrollo de la fauna de mamíferos de América del Sur. Monogr. Nat., Mus. Mun. Cienc. nat. "Lorenzo Scaglia," Mar del Plata, 162 pp.
- RUSCONI, C. 1930. Las especies fósiles argentinas de pecaríes (Tayassuidae) y sus relaciones con las del Brasil y Norte América. An. Mus. Nac. Hist. Nat. "Bernardino Rivadavia," 36: 121-241.
- . 1948. Restos de plitigonos y malformaciones óseas procedentes de los túmulos indígenas de Santiago del Estero. Rev. Mus. Hist. Nat. Mendoza, 2:231-239.
- . 1952. Pecaríes extinguidos del Uruguay. Rev. Mus. Hist. Nat. Mendoza, 6:123-127.
- SCHWEINSBURG, R. E., AND L. K. SOWLS. 1972. Aggressive behavior and related phenomena in the collared peccary. Z. Tierpsychol., 30:132-145.
- SHORT, L. 1975. A zoogeographic analysis of the South American Chaco avifauna. Bull. Amer. Mus. Nat. Hist., 154:163-352.
- SMITH, N. S., AND L. K. SOWLS. 1975. Fetal development of the collared peccary. J. Mamm., 56:619-625.
- SOWLS, L. K. 1984. The peccaries. Univ. Arizona Press, Tucson, 251 pp.
- THORNBACK, J., AND M. JENKINS (EDS.) 1982. International Union for the Conservation of Nature and Natural Resources Mammal Red Data Book. IUCN Conservation Monitoring Center, Cambridge, United Kingdom, Part I, 516 pp.
- WETZEL, R. M. 1977a. The extinction of peccaries and a new case of survival. Ann. New York Acad. Sci., 288:538-544.
- . 1977b. The Chacoan peccary, *Catagonus wagneri* (Rusconi). Bull. Carnegie Mus. Nat. Hist., 3:1-36.
- WETZEL, R. M., AND J. A. CRESPO. 1976. Existencia de una tercera especie de pecarí (Fam. Tayassuidae, Mammalia) en Argentina. Rev. Mus. Argentino Cienc. Nat. "Bernardino Rivadavia," Zool. (1975), 12:25-26.
- WETZEL, R. M., R. E. DUBOS, R. L. MARTIN, AND P. MYERS. 1975. *Catagonus*, an "extinct" peccary, alive in Paraguay. Science, 189:379-381.
- WRIGHT, A. C. S., L. DELEON, AND R. PACHERO. 1964. Notes on soils of Paraguay. Food and Agric. Organization Rept., Jan. (1964), 42 pp.

Editors of this account were B. J. VERTS and SYDNEY ANDERSON. Managing editor was TIMOTHY E. LAWLOR.

J. J. MAYER, SAVANNAH RIVER ECOLOGY LABORATORY, DRAWER E, AIKEN, SOUTH CAROLINA 29801, AND R. M. WETZEL (DECEASED), THE FLORIDA STATE MUSEUM, UNIVERSITY OF FLORIDA, GAINESVILLE 32611.