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Number 1
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CONTENTS

List of Figures ix
List of Tables xix
Abbreviations xxv

1: Christopher M. Götz 1
   Introduction

Northwest Area and Central Plateau

2: Elizabeth S. Wing 23
   Dog Remains from the Marismas Nacionales

3: Bernardo Rodríguez Galicia and Raúl Valadez Azúa 49
   Coastal Resources in the City of the Gods

4: Eduardo Corona-Martínez 81
   Birds of the Pre-Hispanic Domestic Spheres of Central Mexico

5: Tanya M. Peres, Amber M. VanDerwarker, and Christopher A. Pool 95
   The Zooarchaeology of Olmec and Epi-Olmec Foodways along Mexico’s Gulf Coast

6: Heather A. Lapham, Andrew K. Balkansky, and Ayla M. Amadio 129
   Animal Use in the Mixteca Alta, Oaxaca, Mexico

7: Heather A. Lapham, Gary M. Feinman, and Linda M. Nicholas 153
   Animal Economies in Pre-Hispanic Southern Mexico

Northern Maya Lowlands

8: Christopher M. Götz and Travis W. Stanton 191
   The Use of Animals by the Pre-Hispanic Maya of the Northern Lowlands
9: **Marilyn A. Masson and Carlos Peraza Lope**
Animal Consumption at the Monumental Center of Mayapán

Archaeofauna at Isla Cilvituk, Campeche, Mexico: Residential Site Structure and Taphonomy in Postclassic Mesoamerica

### Southern Maya Lowlands and Maya Highlands

11: **Coral Montero López**
Inferring the Archaeological Context through Taphonomy: The Use of the White-Tailed Deer (*Odocoileus virginianus*) in Chinikihá, Chiapas

12: **Erin Kennedy Thornton and Olivia Ng Cackler**
Late-Nineteenth and Early Twentieth-Century Animal Use by San Pedro Maya and British Populations at Holotunich, Belize

13: **Kitty F. Emery, Erin Kennedy Thornton, Nicole R. Cannarozzi, Stephen Houston, and Héctor Escobedo**
Archaeological Animals of the Southern Maya Highlands: Zooarchaeology of Kaminaljuyu

### Mesoamerica’s Southern Neighbors

14: **David N. Rewniak, Paul F. Healy, and Morgan Tamplin**
Preliminary Analysis of the Zooarchaeology of the San Cristóbal Site, Nicaragua: The Bounty of Mohammed’s Paradise

15: **Diana Rocío Carvajal Contreras**
Molluscs as Food in a Prolific Coastal Environment: Evidence for Selective Foraging and Taphonomy from Cueva de los Vampiros (Central Panama)

16: **Richard G. Cooke, David W. Steadman, Máximo Jiménez, and Ilean Isaza Aizpurúa**
Pre-Columbian Exploitation of Birds around Panama Bay
Contents

17: Elizabeth Ramos Roca
Crawling and Walking at the Same Time: Challenges in “Animal Archaeology” in Northern South America

Taxonomic Reviews of Mesoamerican Fauna

18: Raúl Valadez Azúa, Alicia Blanco Padilla, Bernardo Rodríguez Galicia, and Gilberto Pérez Roldán
The Dog in the Mexican Archaeozoological Record

19: Laura Navarro and Joaquín Arroyo-Cabrales
Bats in Ancient Mesoamerica

20: Kitty F. Emery
Conclusion: From Zooarchaeological Remains to a Human Context

References Cited
List of Contributors
Subject Index
Index of Places
Taxonomic Index

Digital Companion
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LIST OF FIGURES

CHAPTER 1

Figure 1. Map of cultural areas mentioned in the book. Drawing by Alejandro García Franco. 2
Figure 2. Map of sites and archaeological contexts mentioned in the book. Drawing by Alejandro García Franco. 4–5

CHAPTER 2

Figure 1. Map of the Marismas Nacionales with modern towns and archaeological sites indicated. Map courtesy of Michael Foster, Marismas Nacionales Archaeology Project. 25
Figure 2. Spindle whorl from the Marismas Nacionales, Accession EAP 0078, Florida Museum of Natural History. Photograph created using a high-resolution BK Lab System camera created by Visionary Digital (visionarydigital.com). 26

CHAPTER 3

Figure 1. Map of the city of Teotihuacán, indicating the location of Teopancazco through an “X” in sector S2 E2. Image from Millon 1970, modified by Christopher M. Götz. 51
Figure 2. Some of the archaeozoological items recovered from the study site: a) right dentary of a barracuda, b) right dentary of a snapper, c) upper tooth of a bull shark, d) claw fragment of a blue crab, e) claw fragment of a red crab, f) carved skeletal fragment of a sea urchin, g) cranial element of a bobo fish, and h) subdermal plates of a crocodile. Photography by Rafael Reyes. 54–55
Figure 3. Teopancazco element frequency identified by number and type. Figure by Bernardo Rodríguez Galicia. 65
Figure 4. Access routes from Teotihuacán to the coastal resources on the Gulf of Mexico. Route 1) North-central Veracruz; Route 2) South-central Veracruz, to the Maya area. Drawing by Alejandro García Franco. 72
Figure 5. Mural painting at Teopancazco showing a priest processing next to an altar (right) with clothing that includes elements alluding to the sea, such as starfish and seashells. The act includes prayers (speech scroll coming out of the mouth) while throwing seeds with the right hand, indicating a link between agricultural and marine life. Image redrawn from Manzanilla and Chapdelaine 2009:Fig. 2.5 by Alejandro García Franco. 77
CHAPTER 4

Figure 1. Proportion of cultural exploitation and bird diversity in recorded domestic spheres. 89

CHAPTER 5

Figure 1. Map of the southern Gulf coast with the study sites. Map by VanDerwarker. 96
Figure 2. Diversity ($H'$) and Equitability ($V'$) results by site. 113
Figure 3. Diversity ($H'$) and Equitability ($V'$) results by temporal period. 114
Figure 4. Percentage of aquatic taxa (MNI) in nonelite assemblages. 125

CHAPTER 6

Figure 1. Map of Oaxaca showing the location of Tayata and other sites mentioned in the text. Illustration by Andrew Balkansky. 130
Figure 2. Topographic map of Area A at Tayata with Houses 1, 2, and 4 marked. Illustrated by Andrew Balkansky. 134
Figure 3. Two modified dorsal fish spines from House 1, (a) one broken specimen and one complete specimen with the (b) posterior and (c) anterior aspects shown. Photographs by Heather Lapham. 140
Figure 4. Distribution of dog body parts b household at Tayata, including (a) and excluding (b) axial elements. 142
Figure 5. Dog maxilla from House 4 with an elongated caries on the first molar. Photograph by Heather Lapham. 144
Figure 6. Select dog bones from Burial 1 in House 4, (a) left skull frontal, (b) right maxilla, (c) left mandible, (d) distal left tibia with cut marks, and (e) left humerus. Photographs by Heather Lapham. 145
Figure 7. View of the valley from Area B at Tayata. Photograph by Ayla Amadio. 146
Figure 8. Map of Area B at Tayata showing the location of the temazcal and the human burials. All quadrants referenced in the text can be located using the letters and numbers printed along the top and left side of the figure. Illustration by Andrew Balkansky. 148

CHAPTER 7

Figure 1. Map of the Oaxaca and Ejutla Valleys showing the location of sites mentioned in the text. Illustrated by Linda Nicholas. 157
Figure 2. Plan of El Palmillo showing the location of the excavated terraces. Illustration by Linda Nicholas. 162
Figure 3. Plan of the Mitla Fortress showing the location of the excavated terraces. Illustrated by Linda Nicholas. 164
List of Figures

Figure 4. Comparison of the main taxa during the Archaic at Guilá Naquitz. Data from Table 3.  

Figure 5. Comparison of the main taxa during the Formative, (a) San José Mogote, (b) Fábrica San José, and (c) Santo Domingo Tomaltepec. Data from Table 3. Period and phase abbreviations are as follows: EF (Early Formative), MF (Middle Formative), LF (Late Formative), ESJ (Early San José), MSJ (Middle San José), LSJ (Late San José), EG (Early Guadalupe), LG (Late Guadalupe), R (Rosario), MAEI (Monte Albán Early I), and MALI (Monte Albán Late I).  

Figure 6. Comparison of the main taxa during the Classic and Early Postclassic, (a) Ejutla, (b) El Palmillo, and (c) the Mitla Fortress. Data from Table 3. Period abbreviations are as follows: EC (Early Classic), MC (Middle Classic), LC (Late Classic), LC/EP (Late Classic/Early Postclassic), and EP (Early Postclassic).  

Figure 7. Rabbits and other taxa compared by %NISP among El Palmillo households. Data from Table 6. Households are ordered by terrace elevation: lower sector (T. 1162, T. 1163, and T. 1147), lower-middle sector (T. 925), middle-upper sector (T. 507), and top precinct (T. 335, St. 35, and Pl. 11).  

Figure 8. Cottontails and jackrabbits compared by %NISP among El Palmillo households. Data from Table 6. Households are ordered by terrace elevation: lower sector (T. 1162, T. 1163, and T. 1147), lower-middle sector (T. 925), middle-upper sector (T. 507), and top precinct (T. 335, St. 35, and Pl. 11).  

Chapter 8

Figure 1. Graph indicating the relative abundance of the most common taxa found at the six middens (drawn by Christopher M. Götz). Note: The relative abundance shown is based on the natural log of the %NISP, following O’Connor 2003:138–139.  

Figure 2. Monument 1 from Kancabdzonot, near Yaxuná (drawn by Travis W. Stanton).  

Chapter 9

Figure 1. The epicentral monumental zone of Mayapán, illustrating structures from which animal-bone assemblages were analyzed (modified from Jones 1962).  

Figure 2. Map of the walled portion of Mayapán, showing the location of outlying residences excavated by INAH from which animal-bone assemblages were analyzed (modified by Timothy Hare from Jones 1962).  

Figure 3. The frequencies of uncommon aquatic animals, namely, crocodiles, sharks, and stingrays—in all contexts where they occur in the INAH
sample of Mayapán. Frequencies are all low (less than 0.7%). Adjacent buildings belonging to the same groups are listed sequentially along the x-axis—gaps between buildings separate architectural groups. This format is the same for Figures 4–6.

Figure 4. Frequencies of peccary, brocket deer, dog, and white-tailed deer in buildings in which they occur in outlier proportions at Mayapán—arranged along x-axis by building group. Table 3 lists all of the contexts with these taxa, including outliers shown here.

Figure 5. Frequencies of iguana, bird (not identified as turkey), and turkey in buildings in which they occur in outlier proportions at Mayapán—arranged along x-axis by building group. Table 3 lists all of the contexts with these taxa, including outliers shown here.

Figure 6. Fish, rabbit, gopher, and turtle in buildings in which they occur in outlier proportions at Mayapán—arranged along x-axis by building group. Table 5 lists all of the contexts with these taxa, including outliers shown here.

Figure 7. Animal figurines and stone sculptures from Mayapán public buildings. Examples A and B illustrate snake and dog ceramic figurines from the center, examples C and D illustrate dog and turkey stone sculptures from the outlying Itzmal Ch'en group (Hall H-15 and Temple H-17 respectively). Illustration by Wilberth Cruz Alvarado, photos by Bradley Russell.

Figure 8. Proportions of the axial skeleton for the most common taxa found in the combined INAH samples discussed in this article. The presence of ribs, vertebrae, shoulder, and pelvis indicate that much of the meat-bearing portions of the axial skeleton are present. Discrepancies in skull frequencies are discussed in the text and in Masson and Peraza 2008). Patterns for individual buildings are parallel to this composite sample (Masson and Peraza Lope 2013).

Figure 9. Proportions of the appendicular skeleton for the most common taxa found in the combined INAH samples discussed in this article. As expected, meat-bearing limbs are present, as well as foot elements that are shown as part of haunch offerings of meat in Maya codices. Patterns for individual buildings are parallel to this composite sample (Masson and Peraza Lope 2013).

Chapter 10

Figure 1. Ecological Setting (map by Rani Alexander).
Figure 2. Site Plan of Isla Cilvituk (map by Rani Alexander).
Figure 3. Sector 12E at Isla Cilvituk (map by Rani Alexander).
Figure 4. Anatomical part representation of Osteichthyes (illustration by John Hunter).
List of Figures

Figure 5. Anatomical part representation of Testudinata (illustration by John Hunter). 301
Figure 6. Anatomical part representation of Cervidae (illustration by John Hunter). 302
Figure 7. Anatomical part representation of Canis sp (illustration by John Hunter). 303
Figure 8. Anatomical part representation of Galliformes (illustration by John Hunter). 304

Chapter 11

Figure 1. Test pit distribution for Operations 1, 2, and 3 behind the Palacio (modified from Liendo et al. 2005:Figure 1). 327
Figure 2. Placement of cut marks on each white-tailed deer bone (marked in black). (Modified from Reitz and Wing 1999:Figure 6.7.) 332
Figure 3. Frequency of human markings on white-tailed deer from the problematic context at Chinikihá. The letter “c” represents the cuts, while “chop” refers to where this action occurred. (Modified from Reitz and Wing 1999:Figure 7.11.) 333
Figure 4. Taphonomic modifications present in the materials from the midden at Chinikihá. Graph by the author. 335
Figure 5. Bone distribution according to the utility index. 344
Figure 6. Bone distribution by presence/absence of meat. 347

Chapter 12

Figure 1. Map showing the location of Holotunich and other sites mentioned in text. Map by Thornton. 354
Figure 2. Percent NISP burnt/charred at Holotunich by excavation operation. 362
Figure 3. Percent NISP at Holotunich by taxonomic class. 365
Figure 4. Percent wild, domesticated, and unidentified mammalian remains at Holotunich by NISP. 366
Figure 5. Site map showing the locations of excavation operations at Holotunich, Belize. Map by Ng. 368
Figure 6. Percent NISP by taxonomic class from features identified at Holotunich, Belize. 370
Figure 7. Percent NISP of major taxa identified in strata A and B at Holotunich. Stratum A is most likely associated with the BEC logging camp, while stratum B is likely more associated with the San Pedro Maya settlement. 372
CHAPTER 13

Figure 1. Map of Mesoamerica with Kaminaljuyu and other sites mentioned in the text. Map by Emery. 383
Figure 2. Chronology of the Kaminaljuyu site. 384
Figure 3. Map of the site of Kaminaljuyu, adapted from Sanders 1969 by Emery, to show the location of the Parque Kaminaljuyu project excavations and other excavations from which comparative samples will be discussed. This chapter primarily presents analyses of animal remains from the Parque Kaminaljuyu project excavations. 385
Figure 4. Detailed map of the Parque Kaminaljuyu showing the excavation regions and units of the Parque Kaminaljuyu project excavations. Map by the Proyecto Arqueológico Parque Kaminaljuyu, modified by Emery to reflect zooarchaeological analytical units. 386
Figure 5. Proportion of specimens in the Parque Kaminaljuyu excavation region collected from deposits of mixed chronology. 397
Figure 6. Proportion of each taxonomic class in the Parque Kaminaljuyu remains. 400
Figure 7. Proportion of each mammalian taxa in the Parque Kaminaljuyu remains. 400

CHAPTER 14

Figure 1. Map of the northern portion of the Intermediate Area detailing sites identified in Nicaragua (after Healy, Stross, and Michel 1996: Figure 13.1). Illustration by Michael Stringer and Erika Range. 420
Figure 2. Map of the Greater Nicoya Subarea, detailing the location of San Cristóbal (after McCafferty and Steinbrenner 2005:Figure 1). Illustration by Michael Stringer and Erika Range. 422
Figure 3. Charts of the identified fauna of San Cristóbal by Class. 425
Figure 4. Map of the distribution of the major environmental zones in Nicaragua (after Taylor 1963: 33). 437

CHAPTER 15

Figure 1. Map showing the location of the Vampiros-1 and Vampiros-2 shelters with respect to other pre-Columbian sites around Parita. Map from Sánchez Herrera 1995, modified by the author. 445
Figure 2. Stratigraphic profile of Macrounit 1 and 2, Vampiros-2 (north wall) and Vampiros-1 (east wall) including columns 1 and 3 (facing page). Image from Carvajal Contreras, Jiménez, and Cooke 2008:Figure 5, modified by the author. 446–447
Figure 3. Location of Vampiros-1 and 2. Top: Cross section of Vampiros-1 and 2). Center: View of the east wall and north wall with the 2005
List of Figures

columns. Bottom: Map of Vampiros-1 and Vampiros-2 showing excavations units 1982–2006 (TP) and column samples 2005 #1, # 2 (left), and # 3 (right). Photographs by the author and illustrations modified from Pearson and Cooke 2007:49, Figure 45 and Pearson 2002b; used with permission.

Figure 4. Percentage of mollusc remains in macrounit 1 at Vampiros-1 and Vampiros-2 by weight. Illustration by the author. 449

Figure 5. Percentage of mollusc remains in macrounit 2a at Vampiros-1 and Vampiros-2 by weight. Illustration by the author. 452

Figure 6. Percentage of mollusc remains in macrounit 2b at Vampiros-1 and Vampiros-2 by weight. Illustration by the author. 453

Figure 7. Exploited habitats at Vampiros-1 (MNI). Illustration by the author. 454

Figure 8. Exploited habitats at Vampiros-2 (MNI). Illustration by the author. 455

Figure 9. *Polinices otis* box plots. The line indicates Keen’s average height and the number enclosed in the box is the MNI. Illustration by the author. 456

Figure 10. *Pitar paytensis* box plots. The line indicates Keen’s average length and the number enclosed in the box is the MNI. Illustration by the author. 457

Figure 11. *Natica unifasciata* box plots. The line indicates Keen’s average height and the number enclosed in the box is the MNI. Illustration by the author. 458

Figure 12. *Grandiarca grandis* box plots. The line indicates Keen’s average length and the number enclosed in the box is the MNI. Illustration by the author. 459

Figure 13. *Thais kiosquiformis* box plots. The line indicates Keen’s average height and the number enclosed in the box is the MNI. Illustration by the author. 460

Figure 14. *Protothaca asperrima* box plots. The line indicates Keen’s average length and the number enclosed in the box is the MNI. Illustration by the author. 461

Figure 15. *Anadara tuberculosa* box plots. The line indicates Keen’s average length and the number enclosed in the box is the MNI. Illustration by the author. 462

Figure 16. Completeness ranges among taxa at Vampiros-1 and Vampiros-2. Illustration by the author. 463

Figure 17. Heat treatment among taxa at Vampiros-1 and Vampiros-2. Illustration by the author. 464

Figure 18. Mollusc remains with abrasion per subunit in each macrounit and shelter by weight. Illustration by the author. 465

Figure 19. Mollusc remains with acid dissolution per subunit in each macrounit and shelter by weight. Illustration by the author. 466

Figure 20. Mollusc remains with encrustation per subunit in each macrounit and shelter by weight. Illustration by the author. 467
Figure 21. Paired mollusc remains per subunit in each macrounit and shelter by weight. Illustration by the author.

Figure 22. Mollusc remains with natural perforation per subunit in each macrounit and shelter by weight. Illustration by the author.

Figure 23. Shell ornament found at Vampiros-1. Photo by the author.

Chapter 16

Figure 1. Geographical location of archaeological sites around Parita Bay and in the Pearl Islands, Panama, which have provided bird archaeofaunas. Inset: map of Panama showing the location of other pre-Columbian sites with archaeofaunas, and prominent geographical features.

Figure 2. Map of Cerro Juan Díaz, within site LS-3, Los Santos, Panama, showing the location of excavation units (“operations”) excavated from 1992 to 2001. Above 10 m contour intervals are at 2 m. Map by Cooke and Isaza.

Figure 3. Frequency of aquatic and terrestrial bird taxa present in archaeofaunal samples from Cerro Juan Díaz based on minimum numbers of individuals (MNI) in each category, aggregated by feature.


Chapter 17

Figure 1. Map of Colombia showing the location of the departments in the Caribbean region and the Altiplano Cundiboyacense (modified from the Colombian physical-political map by the Instituto Geográfico Agustín Codazzi at http://geoportal.igac.gov.co/ssigl2.0/visor/galeria.req?mapaId=7&title=Mapa%20Base).

Figure 2. Map of the Colombian Caribbean region with the names of some of the places discussed in the text (modified from the Colombian physical-political map by the Instituto Geográfico Agustín Codazzi at http://geoportal.igac.gov.co/ssigl2.0/visor/galeria.req?mapaId=7&title=Mapa%20Base)

Chapter 18

Figure 1. Archaeological sites in Mexico where dog remains have been reported (see Table 2). Map by Gilberto Pérez Roldán for the Laboratory of Paleozoology of the Instituto de Investigaciones Antropológicas, UNAM.
List of Figures

Figure 2. Common dog, female, killed at approximately one year old, skinned, quartered, boiled, consumed, and finally the bones were reunited and arranged in anatomical position next to a human deceased with incisor mutilation resembling those of a canid. The specimen is approximately 2,500 years old (Valadez Azúa, Gamboa et al. 2004). Photography by Rafael Reyes for the Laboratory of Paleozoology of the Instituto de Investigaciones Antropológicas, UNAM.

Figure 3. Complete skeleton of a hybrid of wolf and dog, of about five months of age, discovered in a cyst associated with the Templo Mayor, Mexico. The duality of the Templo Mayor, which referred to the cult of gods of rain and war, was also manifested through this type of dog. The wolf part of the hybrid was associated with war, and the dog part with agriculture and water (see Blanco Padilla et al. 2006). Photography by Rafael Reyes for the Laboratory of Paleozoology of the Instituto de Investigaciones Antropológicas, UNAM.

Figure 4. Types of Mesoamerican dogs identified by the authors up to 2007. Illustrations by César Fernández for the Laboratory of Paleozoology of the Instituto de Investigaciones Antropológicas, UNAM. a) Common dog; b) hairless dog; c) tlalchichi, short-legged dog; d) Maya dog; e) dog-wolf hybrid.

Chapter 19

Figure 1. Representation of the anatomy of a bat, indicating the most important characteristics. Image from Wilson 2002 modified by Alejandro García Franco.

Figure 2. Tablet of the eastern ballcourt of Xochicalco, state of Mexico. Photography courtesy of Eduardo Corona-Martínez; modified by Alejandro García Franco.

Figure 3. Zapotec funerary urn depicting the bat god Piquete Ziña. Tomb 12, Building II, San José Mogote, Oaxaca, Mexico. Illustration by Laura Navarro Noriega and Joaquín Arroyo-Cabrales.

Figure 4. Mask of the bat god, Zapotec culture. Photography by Tadeo Velandia Silva.

Figure 5. Vessel from central Veracruz; Xalapa Anthropological Museum. Photograph by María de Jesús Teniente Franco, modified by Alejandro García Franco.

Figure 6. Bat whistle from Los Cerros, Veracruz. Xalapa Anthropological Museum. Photograph by María de Jesús Teniente Franco, modified by Alejandro García Franco.

Figure 7. Whistle from Jaina Island, Campeche, with a bat head, headdress, and human body. Illustration by Laura Navarro Noriega and Joaquín Arroyo-Cabrales.

Figure 8. Painted plate with four bats found in Balam Kú, Campeche, Mexico.
Photography used under Creative Commons License from http://commons.wikimedia.org/wiki/File:Plato_policromado_de_murcielagos.JPG.

Figure 9. Different representations of bat faces in pre-Hispanic art. Images from Seler 1904:32, Figure 49 and Barthel 1968:Figure 6, modified by the authors.

Figure 10. Signature of the artisan of lintel 46, structure 44, Yaxchilan, Chiapas, Mexico. Image taken from Grube 2001:339, Figure 532, modified by Alejandro García Franco.

Figure 11. A glyph from the Mayan city-state of Copán showing a bat. Image taken from Grube 2001:120, Figure 183, modified by Alejandro García Franco.

Figure 12. The months of the haab calendar, of 365 days; one month is represented by a bat, sotz. Image taken from Grube 2001:134, Figure 209, modified by Alejandro García Franco.

Figure 13. Tlacatzinacantli, the head-ripping bat, demon of the East. Image taken from Seler 1904:236, Figure 49b. Online: http://www.archive.org/stream/mexicancentralam00bowd#page/236/mode/2up, modified by Alejandro García Franco.

Figure 14. Tlacatzinacantli, the head-ripping bat, demon of the East. Image taken from Seler 1904:236, Figure 49c. Online: http://www.archive.org/stream/mexicancentralam00bowd#page/236/mode/2up, modified by Alejandro García Franco.

Figure 15. Another Tlacatzinacantli, a possible head-ripping bat, demon of the East. Image taken from Seler 1904:236, Figure 49a. Online: http://www.archive.org/stream/mexicancentralam00bowd#page/236/mode/2up, modified by Alejandro García Franco.
LIST OF TABLES

CHAPTER 2

Table 1. Summary of dog remains as number of specimens (NISP) and minimum number of individuals (MNI). The samples are listed in order of sample size (NISP, number of identified specimens).

Table 2. Summary of measurements of dog remains excavated from Marismas Nacionales sites. Sites are sorted from largest to smallest mean within each element category. Measurements follow Haag (1948).

Table 3a. Estimated live weight of Marismas Nacionales dogs, presented in order of size. Calculations in this table are based on mean values for all specimens recovered including those not classified as burials. Detailed metrics for burial specimens are presented in the digital companion.

Table 3b. Site comparisons of live weight estimates using different allometric formulae and constants. N is the number of measures, sometimes taken from a single specimen. Heaviest and lightest averages are indicated by shading for the overall site comparison (top). The weights for dogs from the center and periphery of Chalpa are presented separately (bottom).

Table 4. Comparative measures for dog remains from the Chalpa site center and periphery areas. Measurements follow Haag 1948.

CHAPTER 3

Table 1. Chronology of Teotihuacán.

Table 2. List of organisms identified in Teopanzaco, located by zones and MNI. Table by Bernardo Rodríguez Galicia.

Table 3. Frequency of fish elements identified in Teopanzaco. Table by Raúl Valadez Azúa.

Table 4. List of nonnative vertebrate species and nonmollusc invertebrates, identified by taxa, genus, and species. Table by Bernardo Rodríguez Galicia.

Table 5. Fish and crab taxa with seasonal reproductive cycles, and the time of the year in which they are found in coastal lagoons. Table by Bernardo Rodríguez Galicia.

CHAPTER 4

Table 1. Birds recorded in the domestic sphere by indigenous name. IAt = Exploitation Index by taxon; IAtR = relative Exploitation Index by taxon (expressed by percentage); CnotAX = nontaxonomic assigned category.
(ac = aquatic; pyc = predatory and scavenger birds; tnp = non-Passeriformes terrestrial birds; tp = Passeriformes terrestrial birds; uses (a= food; m=medicinal; p= raw materials; o = decoration; c= song).

Table 2. Identification Comparisons. Indigenous name records are shown according to the spelling in the historic sources and works of consulted authors. The results are grouped by level of identification.

Chapter 5

Table 1. Contextual summary of the study sites.

Table 2. Ecological Orientation and NISP for taxa identified at sites discussed in the text.

Table 3. Diversity (H') and Equitability (V') results for the study sites.

Table 4. Percentage of aquatic taxa (MNI) for the study sites.

Table 5. Summary of identified taxa from elite contexts, Tres Zapotes.

Table 6. Summary of identified taxa from nonelite contexts, Tres Zapotes.

Chapter 6

Table 1. Formative and Classic period chronology for the Mixteca Alta and Valley of Oaxaca.

Table 2. Area A Fauna by Period.

Chapter 7

Table 1. Oaxaca and Ejutla Valley sites with animal remains discussed in the text.

Table 2. Chronological Sequence for Oaxaca and Mesoamerica.

Table 3. Comparison of Main Taxa by Site, Period, and Phase.

Table 4. El Palmillo Fauna by Phase.

Table 5. Mitla Fortress Fauna by Phase.

Table 6. Comparison of Cottontails and Jackrabbits by Household at El Palmillo.

Chapter 8

Table 1. Number of identified animal specimens (NISP) recovered at the various sites and archaeological contexts of this study.

Table 2. Taxonomic profiles of the six middens considered in this article.

Table 3. The faunal specimens associated with Burial 19, Structure 6F-3, Yaxuná.

Table 4. The faunal specimens from Structure 6F-37, Yaxuná.

Table 5. Faunal specimens from the Osario at Chichén Itzá.
List of Tables

CHAPTER 9

Table 1. Contexts with uncommon aquatic taxa. 243
Table 2. Contexts with uncommon mammals and armadillos. 246
Table 3. Contexts with common animals (% of identified bone). Outliers shaded in gray. Samples with 50 or more bones. 254
Table 4. Means and standard deviations for monumental center fauna (for sample sizes of 50 or more bones). 258
Table 5. Contexts with fish, gopher, rabbit, and turtle. Outliers shaded in gray. 262
Table 6. Contexts with outlier frequencies organized (shaded) according to associated building groups. Gray and white bands indicate buildings belonging to the same architectural groups. 264
Table 7. Percentage of dog in PEMY domestic contexts (those with 50 or more faunal bone fragments). 269
Table 8. Proportion of the body represented for the most-common animals in the composite sample. 275

CHAPTER 10

Table 1. Taxonomic abundance of Isla Cilvituk vertebrate fauna assemblage. 297
Table 2. Taxonomic abundance of Isla Cilvituk’s molluscan assemblage. 299
Table 3. Distribution of MNI of selected taxa across house-lot zones. 305
Table 4. Distribution of burned fauna remains across house-lot zones. 305
Table 5. Distribution of weathered fauna remains across house-lot zones. 306

CHAPTER 11

Table 1. Tentative chronology for Palenque and Chinikihá (modified from Hammond and Ashmore 1981:Figure 2.2). 326
Table 2. NISP and MNI from the problematic context at Chinikihá. 330
Table 3. Comparison between markings and the different agents that cause them. 334
Table 4. Element distribution within the problematic context (NISP). 338

CHAPTER 12

Table 1. Taxa identified in the Holotunich faunal assemblage according to NISP. 360
Table 2. Percent (%) NISP burnt or charred by archaeological feature. 364
Table 3. Density (NISP/m3) and percentage (% total site NISP) of faunal remains recovered from excavation operations at Holotunich, Belize. 369
Table 4. Taxa present (X) or absent in the upper and lower strata at Holotunich, Belize. 374
CHAPTER 13
Table 1. Taxonomy of the Kaminaljuyu assemblage including NISP and NISP/class. 392
Table 2a. Distribution of remains by chronological period (all assemblages). 394
Table 2b. Distribution of remains among subassemblages used in the chronological comparison (mixed assemblages were not included). 396
Table 3. Taphonomic characters of the Parque Kaminaljuyu assemblage. 398
Table 4. Distribution of dog remains from the Parque Kaminaljuyu across excavation regions and chronological periods. 402
Table 5. Proportion of selected taxa in chronological context (some taxa are grouped). 403
Table 6. Proportion of selected taxa in spatial context (some taxa are grouped). 406

CHAPTER 14
Table 1. Chronology of Greater Nicoya Subarea (after McCafferty and Steinbrenner 2005). 423
Table 2. Faunal Remains of San Cristóbal by Taxa (after Rewniak 2006: Table 4). 426

CHAPTER 15
Table 1. Frequent bivalves and gastropods at Vampiros-1 and Vampiros-2. 456

CHAPTER 16
Table 1. Archaeological sites around Parita Bay and on the Pearl Island archipelago, Panama, where taxonomically significant bird remains have been reported. 482
Table 2. Bird taxa exploited by pre-Columbian humans around Parita Bay and in the Pearl Island Archipelago, Panama, with observations on habitat and current status on the isthmus (synthesized from Angehr and Dean 2010). 484
Table 3. Distribution of bird genera and species at ten archaeological sites around Panama Bay by NISP (Sp) and MNI (I). NISP and MNI have been aggregated from features and/or strata identified at each site. 494
Table 4. Taxonomically significant bird bones reported at Cerro Juan Diaz (LS-3), Azuero Peninsula, Panama, showing their distribution in nine “operations” (excavation units) across the site. MNI are aggregated from individual features within each operation. 509
**Chapter 17**

Table 1. Some of the more common species at Colombian Caribbean archaeological sites. Information on threat degree included. IUCN Global Categories (2011): CR: Critically Endangered; EN: endangered species; VU: Vulnerable; NT: Near Threatened; LC: Least Concern; DD: Data Deficient; NE: Not Evaluated.

Table 2. Representation of reptiles in excavation unit 3 and 4 of the site of Tubará, Departamento del Atlántico (Ramos and Archila Montañés 2008).

**Chapter 18**

Table 1. Comparison of dog (*Canis familiaris*) and white-tailed deer (*Odocoileus virginianus*) abundance during the different Teotihuacán Valley cultural phases (based on Valadez Azúa 1992b, 2009b). The figures show the abundance and persistence with which dog remains are found in the archaeological context.

Table 2. Archaeological sites in Mexico where dog remains have been reported.

Table 3. Archaeological sites in Mexico where dog remains have been reported, the recognizable individuals found, and diverse information derived from their study.

Table 4. Outline of possible dog uses at pre-Hispanic sites based on the characteristics of the discovered remains and the associated context.
<table>
<thead>
<tr>
<th>ABBREVIATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IIA</strong></td>
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<tr>
<td><strong>IIE</strong></td>
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<tr>
<td><strong>Revista AMMVEPE</strong></td>
</tr>
<tr>
<td><strong>AMS</strong></td>
</tr>
<tr>
<td><strong>ANCON</strong></td>
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<tr>
<td><strong>BP</strong></td>
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<tr>
<td><strong>BCE</strong></td>
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<tr>
<td><strong>BEC</strong></td>
</tr>
<tr>
<td><strong>BHSGD</strong></td>
</tr>
<tr>
<td><strong>ca.</strong></td>
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<tr>
<td><strong>cal CE/BCE/BP</strong></td>
</tr>
<tr>
<td><strong>CE</strong></td>
</tr>
<tr>
<td><strong>CECSA</strong></td>
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<tr>
<td><strong>CESO</strong></td>
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<tr>
<td><strong>cf</strong></td>
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<tr>
<td><strong>CISAT</strong></td>
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<tr>
<td><strong>COMPACT</strong></td>
</tr>
<tr>
<td><strong>CONABIO</strong></td>
</tr>
</tbody>
</table>
CONACULTA  Consejo Nacional para la Cultura y las Artes, México / National Council for Culture and the Arts, Mexico
CONACyT  Consejo Nacional de Ciencia y Tecnología, México / National Council of Science and Technology, Mexico
DNA  deoxyribonucleic acid
ECOSUR  El Colegio de la Frontera Sur / College of the Southern Frontier
EIPRS  Endeavour International Postgraduate Research Scheme, Australia
ENAH  Escuela Nacional de Antropología e Historia, México / National School of Anthropology and History, Mexico
FAMSI  Foundation for the Advancement of Mesoamerican Studies
FIAN  Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República Colombiana / Colombian National Bank’s Foundation of Archaeological Investigation
FLMNH  Florida Museum of Natural History
FLMNH-EAP  Environmental Archaeology Program of the Florida Museum of Natural History
IAC  Índice de Aprovechamiento Cultural / Cultural Exploitation Index
IAT  Exploitation Index by Taxon
ICAZ  International Council of Archaeozoology
IMHI CIHU  Instituto Multidisciplinario de Historia y Ciencias Humanas, Buenos Aires / Multidisciplinary Institute of History and Human Sciences
INAC  Instituto Nacional de Cultura, Panamá / National Institute of Culture, Panama
INAH  Instituto Nacional de Antropología e Historia, México / National Institute of Anthropology and History, Mexico
IPN  Instituto Politécnico Nacional / National Polytechnic Institute
ITIS  Integrated Taxonomic Information System - itis.gov
LAZINAH  Laboratorio de Arqueozoología del INAH / Zooarchaeology Laboratory of the INAH
LTUPRS  Trobe University Postgraduate Research Scholarship
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNA</td>
<td>Museo Nacional de Antropología / National Museum of Anthropology</td>
</tr>
<tr>
<td>MNI</td>
<td>Minimum Number of Individuals</td>
</tr>
<tr>
<td>n.d.</td>
<td>in association with taxonomic names = not determined</td>
</tr>
<tr>
<td>NISP</td>
<td>Number of Identified Specimens</td>
</tr>
<tr>
<td>Op./Ops.</td>
<td>operation/operations</td>
</tr>
<tr>
<td>PfB</td>
<td>Programme for Belize</td>
</tr>
<tr>
<td>ROM</td>
<td>Royal Ontario Museum, Canada</td>
</tr>
<tr>
<td>SENACYT</td>
<td>Secretaría Nacional de Ciencia y Tecnología / Panama’s National Secretariat for Science, Technology and Innovation</td>
</tr>
<tr>
<td>sp</td>
<td>species - this is used when the genus is known but the species cannot be determined – spp if more than one species is being discussed</td>
</tr>
<tr>
<td>TUARC</td>
<td>Trent University Archaeological Research Centre, Canada</td>
</tr>
<tr>
<td>SEP</td>
<td>Secretaría de Educación Pública, México / Secretary of Public Education, Mexico</td>
</tr>
<tr>
<td>SHM</td>
<td>Sociedad Herpetológica Mexicana</td>
</tr>
<tr>
<td>SIMAC</td>
<td>Sociedad Ictiológica Mexicana A.C.</td>
</tr>
<tr>
<td>Str.</td>
<td>structure</td>
</tr>
<tr>
<td>UADY</td>
<td>Universidad Autónoma de Yucatán / Autonomous University of Yucatan, Mexico</td>
</tr>
<tr>
<td>UAEH</td>
<td>Universidad Autónoma del Estado de Hidalgo / Autonomous University of Hidalgo State</td>
</tr>
<tr>
<td>UNAM</td>
<td>Universidad Nacional Autónoma de México / Autonomous National University of Mexico</td>
</tr>
</tbody>
</table>
Chapter 18

THE DOG IN THE MEXICAN ARCHAEZOZOOGICAL RECORD

Raúl Valadez Azúa, Alicia Blanco Padilla, Bernardo Rodríguez Galicia, and Gilberto Pérez Roldán

Dogs are one of the most common vertebrates in the Mesoamerican archaeological record. It is common to find their bones, craniums, and even complete skeletons associated with many past cultural landscapes: in domestic middens, housing units, activity areas, and burials, or as offerings with a high symbolic value. This distribution, together with their status as domestic animals, provides them with enormous potential as information sources on the life pattern of those who utilized them in the past. For this reason their presence in the archaeological context requires, and deserves, a detailed study of their remains, from being certain of proper identification to the causes that preceded death. This information should be correlated with that gathered from other archaeological materials such as ceramics, lithics, and bones from other animal species. The result permits the definition of aspects such as the time of the year during which a dog remain-related event took place, migratory phenomena related to humans and associated dogs, cultural influences, commercial activities, and the differential use of this vertebrate as a natural resource over the centuries.

The dog (Canis familiaris) is the most common vertebrate in the Mesoamerican archaeological record, and its presence may be linked to practical (dietary, manufacture) as well as ritual (sacrificial animals, burial offerings) activities. This assertion is based on the simple fact that few Mexican archaeological sites do not have these animals’ bones, skulls, or complete skeletons.

The Teotihuacan Valley is a good example of this. This area, located northeast of Mexico City’s metropolitan zone, was a settlement composed of various human communities, including the city of Teotihuacan. It has been inhabited for at least 3,000 years and archaeological research has been ongoing for a century. There is a great amount of information available about these settlements.

When comparing dog frequency in Classic period archeozoological assemblages (the period of Teotihuacan occupation; Valadez Azúa 1992a)
and in later periods (Valadez Azúa 2009), with those of other species during the same time periods, such as white-tailed deer (Odocoileus virginianus; Table 1), we can verify their abundance, as well their pervasive-ness. For the most part they constitute between 10 and 25 percent of the total identified fauna and their presence seems to be related, for the most part, to diet, manufacture, protection of ritual spaces, acts of sacrifice, and company for the dead. At the same time, deer evidence is significantly less abundant and is rarely associated with activities unrelated to diet or tool manufacture.

If we combine these findings, which can be corroborated by the vast majority of Mesoamerican archaeological sites, with the status of the dog as domestic animal, the result is a creature that has probably been associated with humans since the time the American continent started to be populated. Consequently their presence and value is as linked to Mesoamerican civilization as corn or obsidian. Unfortunately, and unlike the aforementioned plant and rock, Mexican archaeology did not consider them a subject of study for many decades in spite of the abundance of dog bones or skeletons reported in technical reports. Their presence was simply ignored, even when related to discoveries of unquestionable cultural importance, such as in the case of Tlatilco, a Formative settlement (tenth–fifth centuries BCE) in the Basin of Mexico. Here the first excavations, undertaken by archaeologist Hugo Moedano (1942), show the importance of these animals at the site, as manifested in the comments of his technical report (p. 5):

Nine excavation units (from 4X4 to 8X9 m and with an average depth of 3 m) were excavated … Burials. Most of the burials found at the site belong to pre-Cortes era dogs. Curiously, all the offerings were found in association with these animals and not, as is more common, with human burials. The dog burials are multiple primaries.

That this outdated way of thinking has been tackled by the authors over the course of two decades, gives the title “Dogs in the Mexican Archaeozoology Framework” a double meaning. On one side we question the disinterest in the topic and openly declare the great importance of research on dog bones found in archaeological excavations. On the other side, we note that there is a need to present the knowledge obtained after the materials are subjected to a detailed, systematic study (Blanco Padilla, Rodríguez Galicia, and Valadez Azúa 2009).
The universe of information related to dogs in Mesoamerican culture is too vast to tackle in its entirety in this limited space, consequently, and based on the authors’ 20 years of experience on the subject, these are the chapter’s objectives:

1. Offer a brief outline of Mesoamerican sites where the recovered dog remains have been a topic of study.
2. Emphasize the basic guidelines that should be considered during the study of these archaeological remains in the lab.
3. Show the importance of studying dog remains within Mesoamerican archaeological research.
4. Present a synthesis of current scholarship related to dogs’ symbolic and material value in the Mesoamerican context.

### Research Framework

The information contained in this article is essentially derived from previously written material—from books to technical reports—where dog finds are formally reported. These were subjected to a fairly detailed study to indicate, at a minimal level, whether it is certain that the identified animals belong to the *Canis familiaris* species, the context in which they

---

**Table 1.** Comparison of dog (*Canis familiaris*) and white-tailed deer (*Odocoileus virginianus*) abundance during the different Teotihuacan Valley cultural phases (based on Valadez Azúa 1992b, 2009b). The figures show the abundance and persistence with which dog remains are found in the archaeological context.

<table>
<thead>
<tr>
<th>Cultural Phase</th>
<th>Chronology (CE)</th>
<th>MNI in studied collections</th>
<th>% of the total NISP of the collections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>Canis familiaris</em></td>
<td><em>Odocoileus virginianus</em></td>
</tr>
<tr>
<td>Classic</td>
<td>IV–VII</td>
<td>159</td>
<td>214</td>
</tr>
<tr>
<td>Coyotlatelco</td>
<td>VIII–X</td>
<td>129</td>
<td>33</td>
</tr>
<tr>
<td>Mazapa</td>
<td>X–XI</td>
<td>92</td>
<td>35</td>
</tr>
<tr>
<td>Aztec</td>
<td>XII–XVI</td>
<td>149</td>
<td>65</td>
</tr>
<tr>
<td>TOTAL/AVERAGE</td>
<td></td>
<td>529</td>
<td>347</td>
</tr>
</tbody>
</table>
were found, and the possible reason for their presence. Based on this, central Mesoamerica and the northern Maya lowlands (Yucatán peninsula) were the main study area, and the information obtained from this area was complemented with data from western and southern Mesoamerica, Oasis-America and Arid-America (Table 1, Figure 1; Di Peso, Rinaldo, and Fenner 1974). Oasis America is a term defined by Nárez (2000) for the area in Northwest Mesoamerica that is characterized by the cultural affinities of the Pueblo Indians.

**Materials and Methods**

The material base for this research includes more than 1,200 dogs studied by the authors at different Mexican archaeological sites (Table 2), as well as data published by other researchers, and technical reports submitted to the INAH Archaeology Department. We present below a methodological outline that defines the methods for recovery of all the information embodied in the dog-bone remains starting from the moment of discovery, if possible.

As indicated above, one of the crucial points regarding the current topic is the need to emphasize the importance of a systematic and rigorous research outline when dealing with dog remains within Mexican archaeology from the moment they are discovered in the field. Although it is true that different countries of Europe, the United States, and Canada have well-established research protocols, that is not the case for most of Latin America, including Mexico. We consider it important, therefore, to explain the methodology used by the authors, both because these are the general research guidelines for *Canis familiaris* archaeozoological remains, and because this is the research protocol we have implemented over the years specifically for Mexican pre-Hispanic dogs.

*The Study of Dog-Bone Remains on the Lab Table*

Once excavated, labeled, and registered (*in situ*), the dog bones are transported to the lab to continue the analysis process in order to: a) confirm if the material does indeed belong to a dog; b) clean, restore, and conserve the bone remains; c) identify, quantify, and describe the material; d) interpret the archaeological context based on artifact association. This is commonly known as “lab work” and includes the following methodological steps:
Certain anatomical parts, such as long-bone fragments, complete teeth, or phalanges are selected for secondary analysis for certain more common archaeometrical analyses such as paleodiet research (Valadez Azúa et al. 2005), DNA (Leonard et al. 2002), and diagenetic process (depending on the objectives of the archaeological project). Samples procurement can be done in the field, but it is preferable to carry it out at the lab.

After sampling, these steps are followed:

1. Restore and conserve the canine bone material for its subsequent manipulation and investigation. First, clean off excess soil. If the sample is very deteriorated, apply a remineralization agent and subsequently a consolidation agent. Next, glue the fragments together with bone adhesive to complete the anatomic specimens.
Table 2. Archaeological sites in Mexico where dog remains have been reported. See Figure 1.

<table>
<thead>
<tr>
<th>Geographic and Cultural Areas (+ province where located)</th>
<th>Oasis-America and West-Mexico</th>
<th>Southern Mexico and Gulf Coast</th>
<th>Central Mexico</th>
<th>Maya Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 La Playa, Sonora</td>
<td>13 Cerro de las Minas, Oaxaca</td>
<td>26 Teotihuacan, State of Mexico</td>
<td>48 El Tigre, Campeche</td>
<td></td>
</tr>
<tr>
<td>2 Paquime, Chihuahua</td>
<td>14 Hacienda Blanca, Oaxaca</td>
<td>27 Valley of Teotihuacan, State of Mexico</td>
<td>49 Becan, Campeche</td>
<td></td>
</tr>
<tr>
<td>3 Huatabampo, Sonora</td>
<td>15 Huamelupan, Oaxaca</td>
<td>28 Tlatilco, Mexico City</td>
<td>50 Champotón, Campeche</td>
<td></td>
</tr>
<tr>
<td>4 Ibarailla, Guanajuato</td>
<td>16 Monte Albán, Oaxaca</td>
<td>29 Zacatepec, Mexico City</td>
<td>51 Hunchavin, Chiapas</td>
<td></td>
</tr>
<tr>
<td>5 Basin of Zacapu, Michoacán</td>
<td>17 Tierras Largas, Oaxaca</td>
<td>30 Xico, State of Mexico</td>
<td>52 Tonina, Chiapas</td>
<td></td>
</tr>
<tr>
<td>6 Guadalupe, Michoacán</td>
<td>18 Yucunama, Oaxaca</td>
<td>31 Xaltocan, State of Mexico</td>
<td>53 Palenque, Chiapas</td>
<td></td>
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<tr>
<td>7 Tzinzunzan, Michoacán</td>
<td>19. Tlacozotitlan, Guerrero</td>
<td>32 Santa Cruz Atizapan, State of Mexico</td>
<td>54 Corral de Piedras, Chiapas</td>
<td></td>
</tr>
<tr>
<td>8 Marismas Nacionales, Sinaloa and Nayarit</td>
<td>20 Altamirano, Veracruz</td>
<td>33 Temamatla, State of Mexico</td>
<td>55 Xcaret, Quintana Roo</td>
<td></td>
</tr>
<tr>
<td>9 San Blas, Mazatlan, Sinaloa</td>
<td>21 Chalchihuites, Veracruz</td>
<td>34 Huixtoco, State of Mexico</td>
<td>56 Punta Pajaros, Quintana Roo</td>
<td></td>
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<tr>
<td>10 Juchipila, Zacatecas</td>
<td>22 La Patarata, Veracruz</td>
<td>35 Terremote-Tlaltenco, State of Mexico</td>
<td>57 Cozumel, Quintana Roo</td>
<td></td>
</tr>
<tr>
<td>11 Tonitlan, Jalisco</td>
<td>23 San Lorenzo, Veracruz</td>
<td>36 Tenochtitlan, Mexico City</td>
<td>58 Chichén Itzá, Yucatán</td>
<td></td>
</tr>
<tr>
<td>12 San Blas, Nayarit</td>
<td>24 Santa Luisa, Veracruz</td>
<td>37 Tula, Hidalgo</td>
<td>59 Dzbilchaltun, Yucatán</td>
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</tr>
<tr>
<td>25 Cerro de las Mesas, Veracruz</td>
<td>38 Cave of the Tecolote, Hidalgo</td>
<td>60 Xcabó, Yucatán</td>
<td></td>
<td></td>
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<tr>
<td>39 Xochicalco, Morelos</td>
<td>61 Siho, Yucatán</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>40 Las Pilas, Morelos</td>
<td>62 Xaxuná, Yucatán</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>41 Cave of the Gallo, Morelos</td>
<td>63 Mayapán, Yucatán</td>
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<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>42 Cuevas de Texcal y Tepeyolo, Puebla</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>43 Cholula, Puebla</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>44 Valley of Tehuacan, Puebla</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>45 Zultepec-Tecoaque, Tlaxcala</td>
<td></td>
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<tr>
<td></td>
<td>46 Ranas, Queretaro</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>47 La Negreta, Queretaro</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Identify each of the skeletal components and ensure that the bones correspond to this species. Also obtain the measurements of the cranium, teeth, and diagnostic bones (long bones) and record the information in the database (Blanco Padilla, Rodríguez Galicia, and Valadez Azúa 2009; Crockford 1997; Rodríguez 2000).

3. With the obtained measurements, the following can be determined (Blanco Padilla, Rodríguez Galicia, and Valadez Azúa 2009):
   - The height (in mm)—calculated from the multiplication of the maximum tibia length by 2.9.
   - The head-torso length (in mm)—calculated from the sum of the basal length of the cranium and the backbone, including the sacrum.
   - The weight (in gr)—multiplying the head-torso length by 15.

4. Determine the gender of the adults, through the shape of the pelvis, and the presence and degree of development of the sagittal crest and the masseteric fossa branch of the dental bone (Crockford 1997).

5. Determine the age of the individual, taking as indicators the eruption process of deciduous and permanent teeth, the degree of teeth wear, and the epiphysis ossification (Blanco Padilla, Rodríguez Galicia, and Valadez Azúa 2009).

6. Determine the type of dog through dentition, shape of the cranium, body size, and limb length (Blanco Padilla, Rodríguez Galicia, and Valadez Azúa 2009).
7. Observe and analyze in detail the anatomical portions that show cut and percussion marks, evidence of cooking, and markings produced by insects, carnivores, or roots (Blasco Sancho 1992; Padró Irizarry 2000; Pérez 2005), as well as those used as tools. This last information should also be recorded on a specific information tag for each specimen. Then, each of the specimens should be photographed.

Next, to interpret the role of dogs at the site, the following final methodological phases must be undertaken:

1. Obtain the Number of Identified Specimens (NISP) and the Minimum Number of Individuals (MNI), to identify the handling given to the discovered individuals. So, for example, individuals with a high NISP probably indicate the use of complete animals, while the opposite would indicate that only certain dog parts (bones, skins, meat) were utilized at the site (Table 3).

2. Concentration charts and graphs should then be created to locate the distribution of individuals inside and outside the activity areas, with the purpose of recognizing accumulation patterns or the relationship of the remains to specific contexts. It is very important in this phase that information regarding each individual’s age and gender be included, as well as dog type.

3. Compare the information obtained to that related to other archaeological materials (ceramic, lithics, wood, among others), which come from the same, or surrounding, contexts.

Results

The Dog in the Mesoamerican Archaeological Context

Archaeological excavations have been ongoing in Mexico for over a century, so dog-remain findings were unavoidable, sometimes in strong ritual contexts (Álvarez Palma 1990; Moedano 1942). However, since few knew how to interpret the discoveries, the final result was to ignore them or merely indicate their presence, sometimes only with a simple photograph (Vaillant 1930), or referencing the diverse sixteenth-century sources, which mention their cultural value (Pohl 1983). In other cases a greater effort was made to understand the presence of these animals. Some, for example, reference NISP percentage numbers with regards to the total discovered fauna or the weight of the identified bones (Álvarez
The Dog in the Mexican Archaeozoological Record

Solórzano 1975; 1976b; Blanco Padilla, Carot, and Polaco Ramos 1993; Blanco Padilla, France et al. 1993), but these calculations do not permit their comparison to other places in which the MNI is presented, limiting the strength of their contribution. Consequently, we can only mention their effort to record their presence. So, out of all the sites that mention their discovery, only a fraction of them have additional data to contribute (Table 3). The study of the remains, or rather the available information on the remains discovered in several of these last sites, constitutes the basis for the proposals that will be presented below, and represents the level of knowledge currently available about the role of dogs in the Mesoamerican cultural sphere. Below we will present examples of archaeological sites with important dog-find information.

The oldest dog remains in the current Mexican territory were located in the Tehuacan Valley (Flannery 1967; Schwartz 1997) and Tecolote Cave, Hidalgo, with this last site’s date calculated to be from some 5000 BP (Monterroso 2004). To the northwest of Mexico City, in the current state

Figure 2. Common dog, female, killed at approximately one year old, skinned, quartered, boiled, consumed, and finally the bones were reunited and arranged in anatomical position next to a human deceased with incisor mutilation resembling those of a canid. The specimen is approximately 2,500 years old (Valadez Azúa, Gamboa et al. 2004). Photography by Rafael Reyes for the Laboratory of Paleozoology of the Instituto de Investigaciones Antropológicas, UNAM.
Table 3. Archaeological sites in Mexico where dog remains have been reported, the recognizable individuals found, and diverse information derived from their study.

<table>
<thead>
<tr>
<th>Sites (+ province where located)</th>
<th>MNI</th>
<th>Observations</th>
<th>Main publications on the matter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valley of Tehuacan, Puebla</td>
<td>62</td>
<td>Dogs from preceramic contexts.</td>
<td>Flannery 1967</td>
</tr>
<tr>
<td>Cueva Tecolote, Hidalgo</td>
<td>6</td>
<td>Oldest dog remains from Mexico, two types of dogs were recognized.</td>
<td>Monterroso 2004</td>
</tr>
<tr>
<td>La Playa, Sonora</td>
<td>2</td>
<td>Dogs in early agricultural societies.</td>
<td>Martinez 2006</td>
</tr>
<tr>
<td>Cave of the Gallo, Morelos</td>
<td>1</td>
<td>Small individual, different from all known today.</td>
<td>Valadez Azúa 1998b</td>
</tr>
<tr>
<td>San Lorenzo, Veracruz</td>
<td>18</td>
<td>Evaluation of dogs as a meat source.</td>
<td>Wing 1978b</td>
</tr>
<tr>
<td>Altamirano, Veracruz</td>
<td>3</td>
<td></td>
<td>Merino and García Cook 1997</td>
</tr>
<tr>
<td>Temamatla, State of Mexico</td>
<td>35</td>
<td>Dogs used as offerings.</td>
<td>Valadez Azúa 1992b</td>
</tr>
<tr>
<td>Terremote Tlaltenco, State of Mexico</td>
<td>8</td>
<td>Dogs used in offerings and for food.</td>
<td>Serra and Valadez 1985</td>
</tr>
<tr>
<td>Huixtoco, State of Mexico</td>
<td>12</td>
<td>Multiple use of dogs.</td>
<td>Valadez Azúa, Gamoa et al. 2004</td>
</tr>
<tr>
<td>Zapotitlan, Puebla</td>
<td>3</td>
<td>Identification of age profiles of dogs and the chronological moment of the event.</td>
<td>Martínez de León Mármol and Reyes Carlo 2007</td>
</tr>
<tr>
<td>Chalahuites, Veracruz</td>
<td>8</td>
<td>Evaluation of the weight of the dogs.</td>
<td>Wing 1978</td>
</tr>
<tr>
<td>La Patarata, Veracruz</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santa Luisa, Veracruz</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ciudad de Teotihuacan, State of Mexico</td>
<td>323</td>
<td>Identification of age and sex of two different types of dogs. Hybrids between coyotes, wolves and dogs.</td>
<td>Valadez Azúa 1992, 2002a; Starbuck 1975; Blanco et al. in press</td>
</tr>
<tr>
<td>Location</td>
<td>Number</td>
<td>Research Summary</td>
<td>Authors</td>
</tr>
<tr>
<td>----------------------------------------------</td>
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<td>--------------------------</td>
</tr>
<tr>
<td>Valley of Teotihuacan, State of Mexico</td>
<td>455</td>
<td>Identification of age and sex of two different types of dogs, hybrids, and determination of food use patterns of dogs.</td>
<td>Rodriguez 2000; Valadez Azúa and Rodriguez 2009a</td>
</tr>
<tr>
<td>Tula, Hidalgo</td>
<td>27</td>
<td>Identification of age and sex of three different types of dogs.</td>
<td>Valadez Azúa, Paredes and Rodriguez 1999</td>
</tr>
<tr>
<td>San Blas-Mazatlan, Sinaloa</td>
<td>1</td>
<td>Discovery of a new type of dog associated to a burial.</td>
<td>Valadez Azúa et al. 2000</td>
</tr>
<tr>
<td>Marismas Nacionales, Nayarit</td>
<td>42</td>
<td>Two types of dogs discovered.</td>
<td>Wing this volume</td>
</tr>
<tr>
<td>Santa Cruz de Atizapan, State of Mexico</td>
<td>95</td>
<td>Identification of age and sex of two different types of dogs, hybrids.</td>
<td>Valadez Azúa and Rodriguez 2009b</td>
</tr>
<tr>
<td>Punta Pajaros, Quintana Roo</td>
<td>37</td>
<td>Identification of age and sex of three different types of dogs.</td>
<td>Blanco, Valadez Azúa, and Rodríguez 1999</td>
</tr>
<tr>
<td>Champotón, Campeche</td>
<td>6</td>
<td>Identification of age and sex of two different types of dogs.</td>
<td>Götz 2008b</td>
</tr>
<tr>
<td>Yaxuná,Yucatán</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Becan, Campeche</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xcambó, Yucatán</td>
<td>3</td>
<td>Identification of age and sex of dogs.</td>
<td>Götz 2008a</td>
</tr>
<tr>
<td>Siho, Yucatán</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dzibilchaltún, Yucatán</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chichén Itzá, Yucatán</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunchavin, Chiapas</td>
<td>62</td>
<td>Puppies of dogs and wolves (hybrids) associated to a pre-Hispanic structure.</td>
<td>Rodríguez and Kaneko 2001</td>
</tr>
<tr>
<td>Cozumel, Quintana Roo</td>
<td>93</td>
<td>Identification of one type of dog.</td>
<td>Hamblin 1984</td>
</tr>
<tr>
<td>Xico, State of Mexico</td>
<td>92</td>
<td>Identification of age and sex of three different types of dogs, hybrids.</td>
<td>Perez et al. 2012</td>
</tr>
<tr>
<td>Zultepec-Tecoaque, Tlaxcala</td>
<td>83</td>
<td>Identification of age and sex of three different types of dogs.</td>
<td>Valadez Azúa and Mestre 2008</td>
</tr>
<tr>
<td>Tenochtitlan, Mexico City</td>
<td>3</td>
<td>Identification of dog-wolf hybrids used in ceremonial events.</td>
<td>Blanco et al. 2006</td>
</tr>
<tr>
<td>Paquimè, Chihuahua</td>
<td>51</td>
<td></td>
<td>Di Peso et al. 1974</td>
</tr>
</tbody>
</table>
of Sonora, a settlement of early first agriculturalists existed at La Playa (3500–3200 BP), where middens and abandoned ovens were filled with dog remains (Martínez 2006). Another one of the earlier sites was Cueva del Gallo in the current state of Morelos. A small mummified adult dog was found inside the cave as part of a burial (2500 years BP; Valadez Azúa 1998b, 2003).

In the Puebla Valley, dog-bone remains were found in the Texcal Cave, dating to 6,000 and 4,500 years BP (Merino and García Cook 1997) and in Zapotitlan (Martínez de León Már mol and Reyes Carlo 2007). In the Olmec ceremonial center at San Lorenzo, Veracruz (3200–2900 BP) more than half of the faunal remains were dog bones showing evidence of having been consumed (Wing 1978). Another site on the Gulf of Mexico coast is Altamirano, Veracruz (3400–2950 BP), where dog burials were found with associated offerings (Merino and García Cook 1997).

In the Basin of Mexico the oldest remains date from more than 2,500 years BP. In Tlatilco (2,450–2,150 BP), dog burials with offerings, dog remains associated with human burials, and bone fragments associated with dietary activities were found (García Moll 1991; Moedano 1942). At the Temamatla site, dogs were found as part of funeral offerings, especially
pups (Valadez Azúa 1992b, 1995b). At Terremote-Tlatenco, dating from
the beginning of our era, the majority of dog bone remains were found in
domestic middens (Serra and Valadez Azúa 1985; Valadez Azúa 2003).
The Huixtoco site, a small settlement to the southeast of this basin dating
from 2200 to 2600 years BP, has an important dog bone collection used
for food and funeral practices. A complete female specimen, one year old
(Figure 2), was found in anatomical position, but with evidence indicating
it had been cooked, eaten, and finally, partially reconstructed, in order to
be deposited next to a human burial (Valadez Azúa, Gamboa et al. 2004).

In the first millennium of our era we have sites like Guadalupe (eighth–
tenth century CE), in the eastern part of the state of Michoacán, where a
complete adult dog skeleton was found (Rodríguez Galicia et al. 2001). It
was placed as a burial under a large rock. The partial remains of numerous
adult specimens were also discovered at the site, in a midden with other
dietary refuse (Rodríguez and Kaneko 2001; Valadez Azúa 2003).

In the ancient city of Teotihuacan (first–seventh century CE) a large
number of bone remains have been found at more than 30 sites (Blanco
Padilla et al. in press; Starbuck 1975; Valadez Azúa 1992a). Of these, the
following stand out due to their material abundance and the reports pro-
duced from them: Oztoyahualco (Valadez Azúa 1993), Tetitla (Valadez
Azúa 1992a), Quetzalcoatl Temple (Valadez Azúa et al. 2002a, 2002b),
and Teopanacazco (this volume, and Rodríguez 2006). For the most part,
the picture presented by the dog assemblages found within the city is one
of animals actively used as food, sacrificial animals in various ceremonies,
offerings in constructions and burials, and raw material for tool manu-
facture.

Also within the Teotihuacan Valley, but in the centuries after the fall
of the city, several excavations were undertaken, among which the ones
from the Study of Tunnels and Caves in Teotihuacan Project (Proyecto
Estudio de Túneles y Cuevas en Teotihuacan) stand out (Basante 1986;
Manzanilla Naim 1994; Moragas 1999; Valadez Azúa 2009). This project
identified 455 canine individuals, including two coyotes (*Canis latrans*),
20 wolf/dog hybrids (*Canis lupus familiaris*), and 433 dogs (Rodríguez
2000; Valadez Azúa et al. 2002a, 2002b, 2006, 2009; Valadez Azúa and
Rodríguez Galicia 2009a). The specimens surfaced as remains associated
with food, in burials where they acted as protectors of certain spaces, and
as sacrificial animals in ceremonies linked to the underworld. Skulls cut to
use the face as a mask were also found, as well as teeth shaped and perfo-
rated to use as pendants, and carved long bones to use as tools.
In a salvage operation undertaken on the road between San Blas and Mazatlan, a burial from the seventh century CE was found with an associated short-limbed dog. This dog became the prototype for a new type pre-Hispanic dog designated as *Tlalchichi* (Valadez Azúa et al. 2000).

In Tula, Hidalgo (seventh century CE) 27 dogs were discovered, several of which were related to human skeletons, presumably placed there to accompany people during their trip to the underworld (Paredes and Valadez Azúa 1988; Valadez Azúa and Mestre Arrioja 2008; Valadez Azúa, Paredes, and Rodríguez Galicia 1999).

In the Toluca Valley, at the Santa Cruz Atizapan site (Valadez Azúa and Rodríguez Galicia 2009b), dating between the sixth and tenth centuries of our era, remains of a wolf, several coyotes, and 95 dogs were found. These last specimens were associated with food, as well as serving as protectors of the dead, as sacrificial animals in ceremonies related to agriculture, and as a source of raw material (bone) for tool manufacture.

The Hunchavin site is found in the Maya area, in the state of Chiapas. It dates from the middle of the first millennium of this era. Here, in a corner of the main mound, a large number of dog-pup bone remains were found, as well as juvenile and adult bones in lesser concentrations (Rodríguez and Kaneko 2001).

At the Chac Mool site in Quintana Roo (twelfth–fourteenth centuries CE) more than 30 skeletons were found, most of which were less than a year old. They had been used as part of a New Year’s ceremony and were later buried (Blanco Padilla, Valadez Azúa, and Rodríguez Galicia 1999).

By the tenth–fifteenth centuries CE, the Xico settlement bloomed to the south of the Basin of Mexico. More than a hundred canine craniums, mostly dogs, were found here on the platform of the pyramid for the god Quetzalcoatl. They were placed there as part of an offering (Pérez, Torres, and Valadez Azúa 2012).

In Zultepec Tecoaque, a small pre-Hispanic city located in the state of Tlaxcala, various dog bones used in stew preparation for various feasts were found (Valadez Azúa and Mestre Arrioja 2008).

There are some sites in the Oaxaca area, such as Hacienda Blanca, Tierras Largas, or Monte Albán, where pup remains have been found in relation to caves and structures (see Lapham chapters, this volume).

In the great urban city of Mexico, Tenochtitlan, dog-bone remains, and even whole skeletons were found related to food, utilitarian, and ritual uses (Figure 3), and ritual activities (Álvarez Solórzano and Ocaña Marín 1991; Blanco Padilla 1978; Blanco Padilla et al. 2006; Carramiñana 1988;
Valadez Azúa et al. 2001). Of particular interest are the remains of three wolf/dog hybrids discovered in offerings dedicated to the Templo Mayor (main pyramid of the city) and associated with agriculture and war.

The Gulf of Mexico coastal region has been important in dog investigations. Elizabeth Wing (1978) reported on and studied diverse materials originally from the Chalahuites, San Lorenzo, Patarata and Santa Luisa sites. In her report, she records the presence of 46 individuals, some of which had their weight and meat percentage calculated to be able to compare them to other species found in different sites of the region, and with that evaluate the dogs’ importance in the site settlers’ diet.

At another coastal area, but on the Pacific, Wing (see this volume and also Wing 1968, 1969), studied 45 dogs at the Panales Peninsula, Tecuilillo and Chalpa sites, located in the Marismas Nacionales at Sinaloa and Nayarit. The remains were buried as offerings inside certain mounds. The author recognized two types and sizes among the dogs, based on skeleton and bone measurements. She also observed that some of the specimens had their teeth destroyed while still alive.

Another investigator, Christopher Götz (Götz 2005, 2006, 2008b, 2008c), from the Universidad Autónoma de Yucatán, has studied the fauna from various sites on the peninsula (see Götz and Stanton, this volume). He has focused his archaeozoological research on recognizing canine age and gender, and has identified at least two types of dogs in more than six sites, for a total of 24 individuals.

Finally, and also in the Maya area, we have the Hamblin research (1984) undertaken on the island of Cozumel, which describes various dog bones whose main characteristic are their small size.

**Dog Usage at the Study Sites**

The data derived from the study of dog remains, as well as the associated contexts highlight that this animal had an enormous number of uses (Tables 3 and 4), from the most practical and utilitarian to the most symbolic. Therefore, the recognition that dogs were heavily utilized within our study region and appear to be a part of so many activities, helps identify the exploitation level and intensity, and the great value the species had within the associated culture. In some contexts studied by the authors, this animal represents up to 50 percent of the total identified individuals, presenting itself in very diverse contexts (domestic, ritual, funerary, manufacturing, etc.), numerically surpassing certain wild species that, at other
moments or in other nearby locations, possess a stronger cultural value. Within this framework, it is necessary to calculate carefully the wealth of material and diversity of uses related to dogs at each study site.

Each Mesoamerican cultural region had distinct ritual patterns that were manifested in the development of feasts, in the deities involved, in the type of ceremonial events, and in the elements that surrounded funerary or domestic ritual activities. Nonetheless, it is clear that dogs were permanent participants in the ritual activities of all regions. Let us consider, for example, the findings related to plazas or main structures in which dogs were used: as sacrificial animals in renewal ceremonies (Guadalupe), in the celebration of a new construction phase (Hunchavin, Tenochtitlan, and Zultepec), and in annual feasts (Chac Mool and possibly Marismas Nacionales). The inevitable conclusion is that in events where the “new cycle” concept was present, the use of dogs was unavoidable.

**Types of Mesoamerican Dogs**

One of the most important results obtained by the authors is the recognition of different types of dogs in Mesoamerica (Valadez Azúa 2003); and although at this moment it is not possible to assert a direct relationship between type of dog and type of use, their identification based on archaeological materials holds a special value, as we shall see below.

Currently, it is considered feasible that different dog groups that arrived in Mexican territory accompanying humans had a nonspecialized morphology, although they carried the predisposition to certain modifications in their genes, which, when manifested, produced the types currently known today (Figure 4a). “Common” dogs (native dogs without evident morphological modifications) were, without a doubt, specimens whose genes were free of mutations that would alter their physical condition. From their arrival this has been the most common type of dog in Mexican territory, since they are present in all of the studied sites and are always numerically dominant. Suffice it to say that out of the more than 1,200 dogs studied by the authors, a little more than 1,100 were of this type.

Hairless dogs, or *xoloitzcuintles* (Figure 4b) surfaced in western Mesoamerica some two thousand years ago, starting with the manifestation of autosomal dominant ectodermal dysplasia (Valadez Azúa, Blanco Padilla, and Rodríguez Galicia 1998; Valadez Azúa and Mestre Arrioja 1999, 2008), which is evidenced in their dentition through the absence of the most simple premolars and incisors (Blanco Padilla, Rodríguez Galicia,
Table 4. Outline of possible dog uses at pre-Hispanic sites based on the characteristics of the discovered remains and the associated context.

<table>
<thead>
<tr>
<th>Type of archaeological remain</th>
<th>Type of manipulation</th>
<th>Heat treatment</th>
<th>Context</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>From isolated bone fragments to complete bones</td>
<td>without evidence of cutmarks or toothmarks</td>
<td>positive</td>
<td>domestic (food preparation areas and middens)</td>
<td>food</td>
</tr>
<tr>
<td></td>
<td>cutmarks, processing marks or evident modification in order to achieve a specific form</td>
<td>positive or negative</td>
<td>domestic (yards or middens)</td>
<td>bones for the elaboration of tools or instruments</td>
</tr>
<tr>
<td>skulls, mandibles, teeth or body sections</td>
<td>cutmarks, perforations or cut bones in order to separate specific parts</td>
<td></td>
<td>yards, rooms, materials deposited next to ritual areas or burials</td>
<td>skins or parts of the body in garments or as gem</td>
</tr>
<tr>
<td>half complete skeletons</td>
<td>sometimes with cutmarks</td>
<td></td>
<td>human burials</td>
<td>as offerings in diverse ritual acts</td>
</tr>
<tr>
<td>complete skeletons</td>
<td>none</td>
<td>Negative</td>
<td>ceremonial use</td>
<td>offerings to the gods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>funerary use</td>
<td>as attendant of the deceased</td>
</tr>
</tbody>
</table>

and Valadez Azúa 2009). For half a millennium their area of distribution was limited to their place of origin, but in the sixth century CE their diffusion was initiated, first to the central part of the territory, to the south, and then later to the southeast, always as part of human migratory movements (Valadez Azúa, Blanco Padilla, and Rodríguez Galicia 2007). They became a recognizable presence from the seventh century CE onwards in the central part of Mexico, and by the thirteenth century in the southeast,
in the Maya area. Currently, 15 archaeozoological specimens have been identified in Mesoamerica.

Short-limbed dogs, or *tlalchichis* (Figure 4c), also originated in Western Mesoamerica, recognized by achondroplasia (Valadez Azúa et al. 2000). The number of recognized specimens and their area of distribution is
much smaller than that of other types of dogs, probably due to the recessive nature of its characteristics. Only five archaeozoological specimens have been identified in the western (seventh century CE) and in the central part (seventh–tenth century CE) of Mexico and one, from the Terminal Classic period, at Chichén Itzá (Götz 2008b:273).

In the Maya lowlands (Yucatán Peninsula), at least three short-face dog specimens have been identified (Figure 4d), characterized by being smaller and more slender than the common dog, and by having a lighter, brachycephalic cranium (Blanco Padilla, Valadez Azúa, and Rodríguez Galicia 1999). This is of particular importance because the zone where this dog existed (and still exists) possesses geographic and cultural characteristics that differentiate and separate it from the rest of Mexico, and can be associated with their origin and history. On the one hand, this is the area with the strongest display of tropical climate in the country, with environments in which tropical forests are the dominant type of vegetation. This is where Mayan culture was created and developed. The Maya controlled this territory for more than 25 centuries, maintaining a history relatively separate from the rest of the pre-Hispanic cultures during the whole period. This context where population flows appear to have been very uncommon events, due to both environmental and cultural factors, may have caused the development of a type of dog whose characteristics became fixed due to the adaptation of specimens to this environment. These animals lived in isolation when compared to other dog populations present in the rest of Mesoamerica.

Finally, 34 archaeozoological specimens currently indicate wolf/dog hybridization (Figure 4e), undertaken at least in the central part of Mesoamerica from the beginning of our era (Blanco Padilla et al. in press; Valadez Azúa et al. 2002a, 2002b; Valadez Azúa et al. 2006). To breed between wolf and dog, it was customary to take a bitch in heat to the forest, leave her in a place where she could not get out, but that a male wolf could get in and impregnate her. The resulting litter would have special symbolic and practical value, since it would have wolf’s blood in a body manageable by humans.

**Dietary Research**

Studies undertaken on dog-remain trace elements from the Teotihuacan Valley (Valadez Azúa et al. 2005) showed that their diet could be extremely diverse, but most relevantly, that those specimens that had been
used in ritual activities presented peculiar dietary patterns. For example, some had high meat content, or as in the case of wolf/dog hybrids, some had a diet basically based on vegetables. In this way, the study of these interaction patterns allow us to obtain data regarding to how the specimens were handled during ritual practices.

**Discussion**

**Pre-Hispanic Dog Myths and Archaeozoological Evidence**

A long-standing paradigm has been to associate dietary dog with puppies or hairless dogs (Valadez Azúa and Mestre Arrioja 1999). However, archaeozoological data clearly shows that specimens of all ages with evidence of human consumption were found in domestic middens. As well, we see from the archaeological record, that any type of dog could be utilized for this purpose. At the same time, historical sources present data with regards to certain Mexican cultural feasts where pups were used in stews (Sahagún 1979), a practice that, as we will see below, was mainly related to those times of the year when litters were abundant.

Due to the fact that for many years it was taken for granted that the hairless dog was the only type of domestic canine in pre-Hispanic Mexico, there is the extended belief that this was the type of dog that was always present in funerary practices, which included a dog as a companion. The present studies clearly show, though, that the factor “type of dog” did not play an important role at the moment of selecting the specimen, but rather it was more likely that this was determined by other aspects, such as by hair color, for example, just as is indicated by sixteenth-century sources (Sahagún 1979). The idea that it is almost guaranteed to find a dog as a companion in all human burials is another belief that has been demystified through archaeozoology, since these type of occurrences, although they are observed in almost all of Mesoamerica throughout the course of its history, are actually quite scarce, with isolated bone findings representing part of the offerings left for the deceased being more common, as food offerings, for example.

Finally, the results of trace elements study in the dog sample are clear and logical in the sense that they present dietary patterns within what is biologically expected. The idea has surfaced in various writings (N. P. Wright 1960) that Mesoamerican dogs were fed cooked corn, an option that, in any case, would have been reserved for some individuals that were
subject to special care due to their symbolic value. The research is clear that the pre-Hispanic dog diet could be as diverse or limited as was permitted by their owners or those responsible for them, as was the specific use given to each one.

*Application of the Information Derived from Dogs in the Reconstruction of Ritual or Migratory Events*

In addition to the aspects that could be derived directly when comparing the dog results with their associated context, there are other pockets of information that need to be obtained and that possess great relevance within the archaeological investigation.

We must consider the relevance this research could have on the recognition of canine types. The discovery of specimens such as wolves or wolf/dog hybrids gives the context, without a doubt, a ritual nature, since these individuals were more than simple food or companionship for the deceased. Consequently, recognizing that these specimen types exist in the material cannot be overlooked, and make us consider the associated context with special care.

Due to the semestral character of the dog reproductive cycle and the speed at which dogs grow in their first year of life, the determination of age of immature individuals offers the opportunity to place the time of the year in which the event involving our specimens took place (Blanco Padilla, Valadez Azúa, and Rodríguez Galicia 1999, 2006; Martínez de León Mármol and Reyes Carlo 2007). This can be illustrated with an example: Let us suppose we find an offering with two dog pup’s remains at our study site. Subsequent research (with the help of archaeozoologists or veterinarians) indicates an age of two and four months for the specimens, respectively. In the Mexican countryside, litters occur between May and July, or between November and January, and if we consider that the more-developed specimen died at age four months, it is clear that it was born before the other one. To determine the specimens’ time of death, we use the more-developed pup. If it was born at the beginning of the breeding period (May or November), the moment of death would be have been August (first reproductive cycle) or February. Now, in the case that our pups were born close to the end of the breeding period (July or January), it is the youngest that serves as a reference, giving us in this case September or March as a second probable date of death. Based on the data now available, we can conclude that the rite where the dog pups were used as
offerings probably occurred between August and September or between February and March.

Finally, we have the possibility of recognizing migratory patterns or exchanges through dogs (Valadez Azúa, Blanco Padilla, and Rodríguez Galicia 2007). Given that at this time we have an approximate idea of the region of origin of the different types of dogs that lived in Mesoamerica, recognizing their presence outside these spheres necessarily implies movement that, in the case of the dogs, is intimately linked to human interests. This is exemplified by the arrival of the first hairless dogs to the Basin of Mexico (Valadez Azúa, Paredes, and Rodríguez Galicia 1999), which happened in unison with the first Chichimeca migrations (seventh century CE), and their subsequent arrival to the Yucatán Peninsula in the Postclassic period as a result of central-Mexican influences on the Maya area (Noguez 2001; Schmidt 2007; Sharer 1994:385). Similar information can be obtained from other types of dogs, from wolves, and also from ritual practices that involve the use of dogs in certain ways, and which can be interpreted as the result of traditions recently arrived in the study area.

**Current Knowledge about the Symbolic Value of the Dog in Mesoamerica**

As was demonstrated in the previous pages, the earliest evidence of dogs in Mexican territory are the specimens placed next to the deceased, (or even their clay representations; see Valadez Azúa 1995b), which show important symbolic elements associated with them from the earliest time periods. Consequently, this pattern has always been important within the history of dogs in pre-Hispanic Mexico.

To understand the set of symbolic relationships associated with this animal, we must consider three concrete and visible elements in their relationship with pre-Hispanic humans: their value as companion and protector, their reproductive cycle, and their use as a meat source. In regards to the first aspect, the intimate dog-human relationship underlies the idea that this interaction should surpass the terrestrial plane and continue as an option even for the deceased. The earliest discovery of a human burial with a dog at its side comes from the Tecolote cave (Monterroso 2004). Subsequently, this tradition varied in intensity and symbolism depending on the associated culture, although it continued as a practice throughout ancient Mexico. At some point this use acquired more symbolic weight,
The archaeology of Mesoamerican animals creating a direct association with the “death” concept, and with this, the presence of dogs in traditions related to the underworld became stronger.

The relationship that we see between dogs, rain, lightning and agriculture does not seem logically related to this animal’s biology, but the relationship possesses a solid foundation since it appears in the codices (Seler 1904), in historical sources (Muñoz 1994), and in archaeological contexts (Blanco Padilla, Valadez Azúa, and Rodríguez Galicia 1999, 2006). The most plausible explanation is found when we observe the dog and corn reproductive cycles and the annual rain cycle in Mexico (Valadez Azúa and Blanco Padilla 2005). Their overlapping cycles are quite evident, suggesting coincidences with regard to time such as:

- The first period of dog heat occurred during drought time, but at the moment in which the ground was being prepared for the corn-sowing season.
- The arrival of the litters from the first reproductive cycle coincided with when the rains started, and corn sowing was the dominant activity.
- The second heat period occurred when the rainy season was at its peak and during the first corn harvest, known as the “harvest of the sweet corn.”
- The arrival of the pups of the second reproductive period coincided with harvest of the ripe corncobs.

Within the annual feasts of the Mexica culture (central Mexico, thirteenth–sixteenth century CE) there were two: Tlaxochimaco and Panquetzalitzli, in which dog meat stews were offered to the people (Sahagún 1979). The months in which they took place (July and November) belong to the dog’s breeding periods, which makes it clear that their use was due to the abundance of the resource at that time. There is the possibility of a selection process in which the specimens that did not have another use could be used as food.

The available sources in the Maya area (Landa 1978) do not specifically describe feasts in which pups were used in large quantities as food. However, for the New Year feasts (linked to the end of the corn-sowing season) that took place in July, “virgin dogs” or pups, were used at a moment when they would have been very abundant. The dog remains discovered as specific burials at the Chac Mool site (Blanco Padilla, Valadez Azúa, and Rodríguez Galicia 1999) were recognized as an archeological example of this event, since the great majority were pups. The age of the specimens
was used to identify when the ceremony took place (as explained in previous pages) and this research revealed that it probably occurred in the month of July.

Conclusions

The dog is a dual entity, since, although it is recognized as a separate living being, it has a history of more than 15,000 years of interaction with humans, who, for their own interests, have used and modified it and made it into a cultural product. Thus, the study of their remains in archaeological contexts is an important source of information that the archaeologist counts on for the study of the human past. The physical characteristics of the specimens found and the context in which they appeared, can help determine the role this animal had in daily life, the way in which it was integrated to civic and ritual activities of the human group with which they lived, and also how these people managed their animal-breeding patterns.

In the specific case of Mesoamerican archaeology, the study of archaeozoological dog remains offer us a quantity of information equivalent to that of any other data source that has traditionally been considered essential (lithics or ceramics, for example). Based on this, we emphasize the need to tackle with care all that concerns this animal, since the information that we will recover in the end will be a direct reflection of the traditions present in the studied culture, not only in terms of the management or use of this animal, but also because of its important position in their worldview, where *Canis familiaris* is involved in the most relevant way.

Notes

1. Commercially named RECONOS 210
2. RECONOS 220
3. Sites that have dog bones and that are together with Hunchavín in Chiapas are currently being analyzed.

Key Words

Mesoamerican dog, *xoloitzcuintle*, archaeozoology, *Canis familiaris*, Mesoamerica
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