Rabbit Domestication: A “Tail” of Two Hemispheres
By: Lisa Yeager

All modern domestic rabbits are descended from the European Rabbit, Oryctolagus cuniculus, which is native to Spain, Portugal, Western France, Morocco, and Algeria (Carneiro et al. 2011 and 2014). However, Europe is not the only place where rabbits were domesticated. A recent study (Sommerville et al. 2016) indicates that husbandry of rabbits took place at Teotihuacan, a bustling pre-Columbian city in the Valley of Mexico.

The process of rabbit domestication in Europe began during the Roman occupation of Iberia in the first century B.C., when rabbits were kept in pens and exploited for meat (Clutton-Brock 1999; quoted in Carneiro et al. 2011). A declaration by Pope Gregory I in the sixth century A.D. sparked renewed interest in the domestication of rabbits. Pope Gregory I made a pronouncement that laurices (fetal and new born rabbits) could be consumed, like seafood, during Lent, as laurices are not meat but marine animals. Following this pronouncement, cuniculture (the agricultural practice of raising and breeding domestic rabbits) proliferated at monasteries in Southern France. A study of domestic rabbit DNA (Carneiro et al. 2014) illuminates the genetic mechanism of rabbit domestication. Rather than major changes at a few loci, many small changes have taken place across multiple loci in the domestic rabbit genome. The study also confirms that rabbits were fully domesticated in Europe by 1,500 years ago (Carneiro et al. 2014).

Leporid (rabbit and hare) remains dominate the animal bones recovered from across Teotihuacan, indicating that leporids were a vital food source for the inhabitants of the city (Sommerville et al. 2016). One apartment block, Oztoyahualco 15B, that dates to approximately 350 – 550 A.D. provides evidence of specialization in animal management at Teotihuacan. At Oztoyahualco 15B a statue of a rabbit was found in a public courtyard along with an area containing hundreds of leporid bones and a butchering anvil near an enclosure. Evidence that rabbits were kept in the enclosure while alive comes in the form of fecal pellet residue in the soil. A total of six different leporid species from two genera Sylvilagus (cottontail rabbit) and Lepus (jackrabbit) were retrieved from the complex. Stable isotope analysis of the bones demonstrates that the leporids from Oztoyahualco ate a diet composed largely of plants that use the CAM and C4 photosynthetic pathways, as opposed to the plants that use the C3 photosynthetic pathway. The majority of domesticated plants in pre-Columbian Mesoamerica are CAM or C4, most notably maize, a C4 plant. The normal diet of a leporid is composed mostly of C3 plants. This points to human provisioning of leporids at Teotihuacan (Sommerville et al 2016).

The authors of the isotopic study (Sommerville et al. 2016) offer a plausible scenario by which husbandry of rabbits developed at Teotihuacan, which is supported by their stable isotope data. In the beginning, leporids would have been attracted to the crops surrounding the city. Farmers would then have been able to practice “garden hunting,” obtaining meat while eliminating pests in their fields. Next, farmers would have dedicated a part of their garden to the leporids in a deliberate attempt to keep their meat supply close at hand. Finally, the inhabitants of the city directly provisioned rabbits, with the people of Oztoyahualco overseeing the process. The amount of CAM and C4 plants in the diet of leporids at Teotihuacan gradually increases from about 1 AD to 500 A.D., then begins to decline along with the
population and prestige of the city (Sommerville et al 2016).
Although all modern domestic rabbits are descendants of the European Rabbit, Europe is not the only location where humans have managed leporids. What other independent instances of animal domestication are left to discover? It’s impossible to say, but archaeological excavations, genetics and isotope studies are sure to provide the answer.

Works Cited


Silent Auction Items
An important part of the CAS annual meeting at the end of October will be a silent auction and the money which is earned from the auction will be used by the Alice Hamilton Fund for scholarships to college students in archaeological fields. It is important that there be as many items as possible and your donation will make a difference. The event is at History Colorado at 1200 Broadway. Your donations can be dropped off there on Saturday morning, October 28 or on the Friday evening before. Items can also be delivered to 1961 S Marion St, Denver near Downing and Evans. You can call Betsy Weitkamp at 303-722-1656 for more information. Small or large, anything is appreciated. Archaeological items are welcome such as pottery, anything with rock art designs, books etc. Other donations are welcome too. One idea might be to lead a great field trip that people could bid on. Please have an idea of the value or the amount you think a starting bid should be. If you cannot deliver the items, a way will be found to get them to the museum. And be sure to plan on bidding on many other exciting items. Thanks so much.
Speaker: Reid Farmer

Title: Archaeology at Cherokee Ranch: 1971 to 2017

Abstract: This talk will cover the history of archaeological investigations at Cherokee Ranch, beginning with the excavations conducted at Cherokee Mountain Rock Shelter (5DA1001) in 1971 by Nelson and Stewart. The significant findings of this research, published in 1973 in Plains Anthropologist, will be placed in the context of what is known about the culture history of the region. After the discovery of the 1971 artifact collection at Cherokee Castle in 2014, research resumed at 5DA1001 conducted by the Cherokee Ranch Science Institute, Metropolitan State University Denver, and Community College of Denver. This work has been supported by the Cherokee Ranch and Castle Foundation, the two colleges, and the State Historical Fund. The preliminary results of this new research as well as a reanalysis of the 1971 collection will be described. Information will also be provided on new archaeological resources that have been discovered on the Ranch property by the college field schools and members of the Cherokee Ranch Science Institute.

Speaker Bio: Reid Farmer decided he was going to be an archaeologist when he was eight years old. His parents were convinced he would outgrow this, but he never did. He began volunteering on excavations with the Arkansas Archaeological Society when he was in high school. He has a BA in Anthropology from Tulane University, an MA in Anthropology from the University of Colorado – Boulder, and an MBA in Finance from Regis University. He has 40 years’ experience in archaeological research, cultural resource management, and project management. He has directed and conducted research in 18 states under the review of a wide variety of federal, state and local government authorities. He currently serves as an affiliate professor with Metropolitan State University Denver and as archaeology director with the Cherokee Ranch Science Institute.

November General Meeting: Monday, November 13, at DMNS in Ricketson Auditorium at 7 PM.

Speaker: Dr. Sarah Trabert

Title: Western Views on “Eastern Groups”: Understanding the Dismal River (Plains Apache) Occupation of Colorado

Minutes of the DC-CAS Board Meeting, September 5, 2017

The DC-CAS Board meeting was held at the South Classroom Building/Cherry Creek Building, Room 241 at Metro State University Denver Tuesday, September 5. Attending were Linda Sand, Jon Kent, Alex Rosa, Ken Andresen, Preston Niesen, Teresa Weedin, and Michele Giometti. The meeting was called to order by Linda at 7:04 pm.

Speaker Jon reported the November speaker will be Sarah Trabert; subject Dismal River archaeology. Membership Cashell (email) reported four new memberships.

PAAC Preston said there will be PAAC classes in the Fall of 2017, correcting the report in last months Board Meeting minutes. Another correction in last month’s minutes is the PAAC class in Dolores is Photogrammetry, not Photography.

Treasurer Michele had sent the August financial report to the board via email before this meeting. She also has paid an annual insurance premium of $280.00.

New Business An offer from a different insurance company than before for the Officers and Directors policy was discussed. The premium would be lower; the board was agreeable with this.

December Board Meeting Michele made reservations at Gaetanos for December 5, 2017 board meeting. Menu details are forthcoming. The meeting was adjourned at 8:11 PM.

Submitted by Ken Andresen

Minutes of the DC-CAS General Meeting, September 11, 2017

The meeting, held in the Ricketson Auditorium of the Denver Museum of Nature and Science, was called to order by Linda Sand at 7:04 pm. She announced the next meeting of the Annual Meeting planning meeting would be held in the ground floor lobby of the Cherry Creek Building instread of in Room 241. Jon Kent announced the Denver Chapter General Meeting speaker will be Reid Farmer talking on Cherokee Ranch archaeology. The featured speaker at the CAS Annual Meeting will be Dr. Michael Waters.

Jon next introduced the evening’s speaker, Lindsay Johannson, a PhD candidate at the University of Colorado, Boulder. The talk’s title was Who’s in Charge Here? A Look At Fremont Community Layout, Organization, and Activities. The Fremont culture ranged from about 200AD to 1400AD. The Aggregation Period from about 1100 to 1300AD was when farming became dominant over the hunting and gathering.
The many sites mentioned included Alkali Ridge, Big Mound, Wolf Village, Nawthis Village, Bradshaw Mound, Baker Village, Five Finger Ridge, Blue Trail House, Huntington, Poplar Knob, and Garrison. The structures were of adobe surface construction. In the grouping of single family units there was often a central larger structure that was too large to be maintained by a single family. The large structure at Wolf Village had more than 20 rooms. Some of these multiroom structures could have been used for corn storage. One structure had no south wall; perhaps a setting for community viewing of happenings in the structure. Fremont society is more complex than previously thought.

After the talk, Linda described the new meeting schedules for the four organizations, Denver Chapter CAS is one of them, that meet at the DMNS beginning in January 2018. The new time for the Denver Chapter is 5:30 to 7 PM. This time is difficult for members who have jobs and must travel during rush hour to attend. Perhaps another venue can be located.

The meeting was adjourned at 8:19 PM. Submitted by Ken Andresen

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**PAAC Classes**

**Prehistoric Ceramic Description and Analysis**

**Dates:** Tuesday evenings, 6:30-9:30, October 10, 17, 24, November 7, 14 (NOTE: NO CLASS ON October 31)

**Location:** Loveland (Medical Center of the Rockies)

**To sign up, contact:** Dave Swinehart

**Host CAS Chapter:** Northern Colorado

**Archaeological Practice in Colorado**

**Dates:** October 14, all day

**Location:** Durango (Center of Southwest Studies, Fort Lewis College)

**To sign up, contact:** Tish Varney

**Host CAS Chapter:** San Juan Basin

**Prehistoric Lithic Description and Analysis**

**Dates:** November 3rd (evening), 4th & 5th all day

**Location:** Pueblo (El Pueblo History Museum)

**To sign up, contact:** Barbara Sabo

**Host CAS Chapter:** Pueblo Archaeological and Historical Society

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**Other Lectures**

**John Wagner** is presenting on "Economic Change and Trade among the Teuchitlán"

October 12, at 7 p.m. at the CU Museum, Dinosaur Room on the University of Colorado Boulder Campus. Sponsored by the Indian Peaks Chapter of the Colorado Archaeological Society. Free.


**Dr. Kieran O’Conor**, American Institute of Archaeology

**AIA Lecture October 14, 2:00 PM, at Auraria Campus, North Classroom Building, Room 1511**

**Abstract** Castles can be defined as the seriously-defended residences of people of lordly (and later gentry) rank. It is clear that Ireland was one of the most castellated parts of Europe by c.1600 and, even after this date, castles continued to be built there, with the final ones being erected in the 1640s. This illustrated lecture will outline the main types of castle constructed and inhabited in Ireland from the 12th century down to the 17th century. The architecture, dating, and functions of these different types of castle will be outlined in the talk. The ethnicity of the inhabitants of these places will also be discussed in the lecture and the somewhat debated question of when native Irish (ie Gaelic Irish) lords adopted fortifications that contemporaries and modern scholars would regard as castles will be addressed too. Lastly, the lecturer will try to answer the question of why up to 8000 castles were built in Ireland throughout the later medieval period and up to the mid-17th century.

**Biography:** Kieran O’Conor is a graduate of University College, Dublin (UCD) and has a PhD from University College Cardiff, Wales. He worked during much of the 1990s for the Archaeological Survey Branch of the National Monuments Service (Déchus – The Heritage Service) in Counties Roscommon, Sligo, Longford, Westmeath and Wexford. In 1996 he excavated Carlow Castle as part of his work for the latter institution. Dr O’Conor has also taken part in excavations and field surveys in England, Wales, mainland Greece and Crete. He was appointed a research fellow at the Discovery Programme in 1997 and was then made director of Medieval Rural Settlement project there in early 1999. Dr. O’Conor joined the staff of NUI, Galway in September 2000. He has published widely on the subjects of castles, medieval rural settlement, elite settlement in high medieval Gaelic Ireland and medieval landscapes. Dr. O’Conor is English language editor of the international peer-reviewed journal Chateau Gaillard. He also has been very successful in linking his research to heritage tourism.
initiatives in County Roscommon. O’Conor strongly believes in sharing his research with rural communities throughout the West of Ireland and the Midlands.

**Lamb Spring Archaeological Preserve Talks and Tours**

The Lamb Spring Archaeological Preserve is offering talks and tours of this important Paleo-Indian archaeological preserve just south of Chatfield State Park (Littleton address) monthly from May, 2017 through October. Remains of extinct species of Columbian mammoths, camel, horse, and buffalo have been excavated from this prehistoric hunting site. Butchered mammoth remains have been dated older than 15,000 years ago (calibrated C14 years). Cody Paleo-Indian culture artifacts have been dated to about 10,000 years ago. For more information and to make a reservation see lambspring.org.

### Income Statement

**August 1 – 31, 2017**

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<th>MTD</th>
<th>YTD</th>
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<td><strong>Total Expenses</strong></td>
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<tr>
<td><strong>Net General Fund Income</strong></td>
<td>(221.00)</td>
<td>1,632.96</td>
</tr>
</tbody>
</table>

| **Scientific Applications Fund** |     |      |
| Income                          |     |      |
| Transfer from General Fund      | 7.00 | 192.50 |
| Donations Received              | 10.00 | 48.00 |
| **Total Income**                | 17.00 | 240.50 |
| **Net SAF Income**              | 17.00 | 240.50 |

| **Speaker’s Meals**            |     |      |
| Income                         |     |      |
| Donations Received             | 0.00 | 2.00 |
| **Total Income**               | 0.00 | 2.00 |
| Expenses                       |     |      |
| Speaker’s Meals                | 29.52 | 78.30 |
| **Total Expenses**             | 29.52 | 78.30 |
| **Net Speaker’s Meals Income** | 0.00 | (372.00) |

| **Swallow Report Project**     |     |      |
| Income                         |     |      |
| Donations Received             | 0.00 | 128.00 |
| **Total Income**               | 0.00 | 128.00 |
| Expense                        |     |      |
| Contract Services              | 0.00 | 500.00 |
| **Total Expenses**             | 0.00 | 500.00 |
| **Net Swallow Report Income**  | 0.00 | (372.00) |

**COLORADO ARCHAEOLOGICAL SOCIETY**

**DENVER CHAPTER**

Financial Report

Prepared by Michele Giometti, Treasurer

**Balance Sheet**

August 31, 2017

**ASSETS**

Current Assets

- Checking/Savings
  - Key Bank Checking: 2,638.34
  - 1st Bank CD 182 day 1/3/18 0.05%: 5,700.93
  - 1st Bank CD 182 day 10/17/17 0.05%: 4,811.77
  - 1st Bank CD 1 Yr 2/20/18 0.10%: 5,004.37
  - Total Checking/Savings: 18,155.41

**TOTAL ASSETS**: 18,155.41

**LIABILITIES & EQUITY**

Current Liabilities

- State CAS Dues Payable: 0.00
  - Total Checking/Savings: 0.00

Temp. Restricted Net Assets

- Scientific Applications Fund: 3,992.41
- Swallow Report Project Fund: 2,353.81
- D Bucknam Memorial Speaker Fund: 1,747.10
- Blackfoot Cave Fund: 0.00
- Education Fund: 52.40
- Field Trips / Social Fund: 483.01
- Student Membership Fund: 57.50
- Speakers Meal Fund: 483.98
  - Total Temp. Restricted Net Assets: 9,170.21

**General Fund**: 7,352.24

**General Fund Net Income**: 1,632.96

**Total Equity**: 18,155.41

**TOTAL LIABILITIES & EQUITY**: 18,155.41
The All Points Bulletin is published monthly by the Denver Chapter of the Colorado Archaeological Society, and is governed by the bylaws of the Denver Chapter. Articles appearing in the All Points Bulletin do not necessarily reflect the views of the officers or members of the Denver Chapter. The All Points Bulletin is published monthly by the Denver Chapter of the Colorado Archaeological Society, and is governed by the bylaws of the Denver Chapter. Articles appearing in the All Points Bulletin do not necessarily reflect the views of the officers or members of the Denver Chapter.

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