A VINDOLANDA JOURNEY
by Deb Bennett, Ph.D.

In the Wild Uplands of Northumbria: Once every year since 2002, I have spent a month at Vindolanda, also known as Chesterholm Museum, a wonderful historical park in the wilds of northern England. For Americans, describing anything English as “wild” may sound a bit extreme: we think of England as a center of civilization, culture, and urbanity -- not a place to go camping and hiking with scenery such as you might find on the Appalachian Trail or in Yosemite Park.

But England is not all London, not all Oxford or Cambridge. The northern part of the country, where it borders on Scotland, was historically known as “the borderlands” -- for centuries a dangerous, politically-contested no-man’s-land laid out on steep scarps, cloven valleys, and high uplands where the only cattle are woolly sheep and the wind whips a wary lookout’s hair. This is a country for pheasant and deer, with beautiful fall colors and fast-running “burns” where trout and salmon leap. The glass-clear tarns and lochs of the Lake District, nearby to the northwest, are part of Britain’s national park system and feature mountain views and world-class fly fishing.

Here almost 2,000 years ago, Roman armies built forts, and later a massive wall, to divide the civilized South from the wild North. Rome came to England in the first century B.C., conquering all of the southern part of the country within about a century. Then, in A.D. 122, the Emperor Hadrian ordered his engineers and troops to build a Wall some 12 ft. high and equally broad which would stretch across the narrow waist of northern England from the English Channel to the Atlantic, effectively blocking out the fierce and unconquerable Picts and Celts who lived to the north.

Much of this wall still stands, and you can hike its length -- in a few places even walk on top of it just as Roman legions once did. Here in the wild North of England, you can also walk on roads the Romans built, enter the forts they fought from, and explore the villages that served the Roman army.
Getting to Vindolanda:
Vindolanda is a fort and village site standing about two miles south of Hadrian’s Wall, near the towns of Hexham and Haltwhistle. It’s about seven miles from another major Roman fort, Carvoran. These two sites, as well as twenty other points of interest along nearby parts of the Wall, are all linked by a system of trails. You can hike, camp, or RV all along this stretch of Wall, and daypackaging is especially encouraged by the convenient location of pubs where you can have lunch or supper and put your feet up. For those whose hiking-legs are in need of a rest, or for those who aren’t hikers, there is also a convenient bus service that someone has waggishly dubbed “the AD 122 route”. The bus is definitely the civilized way to go: it not only links points of interest, but also serves some of the B&B’s, pubs, and inns where a traveler can stay. The pubs in particular depart from the sameness of an American motel -- many are hundreds of years old, real English inns.
complete with hand-drawn brown ale and carved beef.

The Roman Army Museum: The Roman Army Museum at Carvoran is a huge old stone barn that’s been turned into an educational experience that will immerse you in every facet of Roman life two millennia ago. At the R.A.M. you will find dioramas and exhibits that show what a complete Roman fort looked like, the armor and weapons used by the Romans, and the spectacular “Eye of the Eagle” film that uses aerial footage to take you on a tour of the Wall and its forts and attendant villages.

Walking the Actual Ruins: Once you’ve toured the R.A.M., you’ll want to head for Vindolanda. But don’t go to the museum first; instead, go in by the west gate and take an easy walk over the grounds. Admission is an inexpensive four pounds, about $7 US dollars (try to do that at Seven Flags or Disneyland). At the west gate, you first go through the reproduction Roman atrium with its beautiful horse fountain, and then out into the actual land that the Romans trod and built upon. Anything that isn’t

Above: Spectacular remains of one of the Roman bath-houses -- really “spa and sport complexes” -- that have been unearthed on site. The photo shows numerous short pillars that once upheld the floor; steam was pumped through the underfloor space to warm the rooms and heat the baths. Right: Thousands of visitors come to Vindolanda each year, to walk among the ancient buildings.
grass underfoot is ancient artifact. The first area you go through is the Temple complex...then the ancient springhead, which still flows with water thanks to the artesian nature of the whole hill. The path slopes gently downward, connecting where the ruins of the Roman village begin. Here you will walk the same road -- the very same flagstones -- trodden by Roman Legions so very long ago.

Everywhere, there is signage with pictures or models explaining what these buildings were, what they looked like when Roman workmen and soldiers and their families occupied them. You can see the ruins of workshops, the foundations of a public inn, and two of the heated spa-and-sport complexes that were popular with the Roman soldiers.

After you pass through the village, you can walk both around and in the actual fort, whose walls have been excavated and partly rebuilt to about ten feet in height, using the original stones. To one
side are reproduction towers, one in timber, one in stone; for the stone fort now seen by visitors is but the fourth of at least seven forts that were built one on top of the other over a stretch of four centuries at Vindolanda: the first in about 97 A.D., the last still standing at the fall of the Roman Empire in 415 A.D. Earlier forts at Vindolanda were of wood, while later ones were built of stone.

A Roman fort was not just a barrier wall, but a whole complex of buildings including barracks for up to 1,000 men, a large latrine, a command center that contained offices and an underground treasury, a granary and warehouse, a hospital, stables, workshops, and the large and elaborate residence of the commanding officer. The latter contains a heated bathroom with running water and indoor plumbing, a kitchen and slave’s quarters, public hall, private garden, and bedrooms.

If you come to Vindolanda from April through the end of August, you’ll see excavation in progress. Usually there are two crews working simultaneously, one in the temple complex and one down in the village or the fort. Barriers are erected to prevent visitors from falling over the edge into the pits, but you can walk right up to the edge to see ancient foundations and artifacts come to light as the excavators expose them. Best of all, you are welcome to ask questions and talk with the excavators: at least one experienced archaeologist works with each crew of volunteers. If you get inspired by watching, you can return as a volunteer excavator yourself: signup instructions are at the Vindolanda website, www.vindolanda.com.
The Vindolanda Museum and Grounds: Once you’ve toured the ruins, which spread out over about two acres of ground, you take the shady path downhill toward the museum building. The Vindolanda museum lodges not in a barn, but in a picturesque English country house of Edwardian vintage, complete with lacework trim, funky stone chimneypots, and a slate roof with gables facing every which-way. No Edwardian mansion would be complete without a formal garden, and Vindolanda’s is lovely. Within it, and somehow not at all out of place, the curators have built more walk-in exhibits, like the towers, that allow you to experience the whole long history of the place. On the very banks of the bubbling Cockton Burn, you can enter a full-scale reproduction temple to the goddess of the stream; gracing the garden itself are stone altars to the gods of military good fortune. At the upper end of the garden and to one side, you will find the later history of the place in the form of an authentic “crofter’s cottage”, the sort of primitive farm dwelling that the few and weather-hardy Northumbrians inhabited during the sixteenth and seventeenth centuries, when the Roman legions had long since faded away.
The Vindolanda museum itself is probably the greatest place in existence to get a direct and intimate feel for the actual lives of Romans living on the “wild frontier” of the Empire in the first few centuries A.D. The exhibits are numerous and you’ll want to luxuriate in the immense amount of detail as well as the very high quality. For here you will not find reproductions, but the real objects that excavators have been bringing up from the depths of this site since the first digs were undertaken in the 19th century. What kind of objects are on display? A brief list includes coins, textiles and clothing (including a wig made of natural fiber), amphorae, dinnerware and cookware, tools, locks (yes, the Romans had locks with keys), armor and weapons, horse tack, leather tents, leather shoes, statuary, altars, grindstones, flints and whetstones, wooden wheel-spokes and wagon axles, beads and jewellery, tiles (some bearing animal footprints), a glass bowl with painted gladiators, and -- of the greatest interest to me -- thousands and thousands of bones.

**The Vindolanda Tablets:** While the bones are the reason for my continued presence at Vindolanda -- and there will be more about both bones and horses here in a moment -- they are not at all the most important class of artifact that comes from this site. For it was from deep levels at this site in 1973 that then-Director of Excavations Dr. Robin Birley made an incredible discovery: the Vindolanda Tablets.

Before Robin’s discovery, many inscriptions on stone were known from Vindolanda. This is the usual form in which antiquarians have learned about the Romans -- from the official, monumental writing --
This page and the next: Some of the artifacts on display in the Vindolanda Museum. The museum is unique in that displays are upgraded nearly every year -- instead of being hidden away in storage rooms, the most exciting finds are immediately put on display. The cases are simply stuffed with fascinating objects, ranging from the common implements of daily living to exotic coins and jewelry. Right: A legionary brooch in bronze with silver alloy. This pin was probably a military honor conferred on a soldier who had served in Dacia, at the eastern end of the Empire, and who was later transferred to Vindolanda. It shows Mars (the head has been lost) wearing a cavalryman's outfit and flanked by rosettes and Dacian shields.

Left: The Boxer. This artifact in solid silver once formed part of a relief decoration on a serving-bowl. The boxer wears a padded leather helmet, a short fur cape, and a belted leather tunic. His hands are held in defensive position, ready to strike a blow. His face appears scarred and bruised. This is not surprising as Roman boxers did not wear gloves but instead the fighting was carried on with brass knuckles. Fighters must literally have torn chunks out of one another -- rough entertainment for soldiers used to battle.
Well -- here's my horse bias showing. Vindolanda has produced some very interesting horse-related artifacts, not surprising for a fort where cavalry units were almost always posted. Left, above: The ring (green) and mouthpiece (black) of a snaffle bit. The ring weathers green because it is made of bronze alloy; the mouthpiece was of sweet-iron. Below: A reproduction of a leather chamfron found at Vindolanda. This item probably belonged to the Commandant or one of the Decurions (captains of cavalry), and was used for parade or sporting competitions rather than in actual battle. Left: The little green horse that has become the badge of Vindolanda. The statuette stands three inches high at the top of a cup meant to fit onto the top of a flagpole, probably a unit standard. I'm specially interested in the little green horse because I think it represents a paraveredeus -- a Romano-Celtic compound word meaning “speedy ambler”. The animal is shown in an amble or Spanish Walk. It is comparable to hundreds of other Roman images from all over the Empire.
the sort of stuff an American would see on the Lincoln Memorial or in the rotunda of the U.S. Capitol building. There were also gravestones. If that were all you had to tell you about the good ol’ U.S.A., what kind of an impression would you get? You’d conclude there were some high ideals, some important political leaders, and that we had seats of government and law. From monuments you’d learn the names of a few important people, perhaps be able to put them in historical order. From gravestones you would get a little more about the lives of ordinary folks, particularly if there was a commemorative sentence or two. But you wouldn’t learn very much about how people lived: the Private First Class in the Army, or his mother back home in Iowa; farmer, carpenter, teamster, lumberjack, hunter, blacksmith, jeweler, butcher, priest, rancher, letter carrier, weaver, tanner, merchant, office clerk, engineer, cook, homemaker, cobbler, teacher, maid, mason, tailor, veterinarian, and doctor: these are the folks who mainly make up our society, and it was no different in Roman times.

The Vindolanda Tablets are huge because they are personal letters concerning everyday issues written by ordinary people (or by scribes on their behalf, if they were illiterate). There are very few documents in the world that can compare with them -- for they are not copies of copies of copies, preserved through generations by Medieval scribes, but instead they are the actual, original documents -- like having a yellow and faded letter to home written from camp by a Civil War soldier -- only far more ancient. They are not carved in formal Roman capital letters but handwritten in ink on very thin placards of wood about the size of a postcard. The writing is an early form of cursive -- similar to today’s handwriting in that letters tend to slant and may be connected together. Some writers had sloppy handwriting, too -- harder to read than someone with better penmanship. It’s all there.

Scholars -- Robin and his brother Professor Anthony Birley and others -- have taught themselves to read the “postcards”, and they supply absolutely fascinating insights. There’s a great movie in the Vindolanda museum where Robin walks you through a translation and conveys his boundless enthusiasm and the excitement of the initial discovery -- still fresh after more than thirty years. The most famous of the Vindolanda letters is probably one written by Claudia Severa, wife of the commander of a fort some-
Above: The cursive script that Roman writers of the first century used to write their “postcard” messages. Below: Do you find the Vindolanda script difficult to decipher? It takes a little getting used to, but once you realize how similar the letter-forms actually are to modern writing, it isn’t so difficult. The upper band says “Vindolanda” in the original characters; in the lower band, I’ve added just a few strokes to make the d’s and a’s easier to make out.
where near Vindolanda, to Sulpicia Lepidina, wife of the Vindolanda commander Flavius Cerialis, inviting her to come to a birthday party! Another contains a requisition from some poor freezing soldier for “socks and underpants” -- I guess they did wear something under those kilts and sandals. The Tablets provide names for many ordinary individuals, strength reports for the garrison, menus and shopping lists, an order to deport a criminal from the province in chains, and intelligence concerning the “wretched little Brits” from north of the Wall who were the Romans’ enemies.

This document is intended as a personal “blog” and I am by no means qualified to go into all that is known about the Vindolanda Tablets or the Wall or the history of Roman Britain: but I can point you to some fascinating resources if you want more information; for besides the Lepidina Cafe with made-fresh-every day sandwiches and hot tea and soup to gladden the visitor’s heart, the Vindolanda museum features a unique bookstore. I’ve reproduced some of my favorite titles at the end of this document, which biases the selection toward horses and cavalry, but rest assured that if you have broader interests there is much more for you to feast upon.

**Dr. Deb and the Bones:** My job at Vindolanda is to deal with the bones. The most numerous of all artifacts that are yearly pulled out of the excavations, bone at this site tends to be hard and beautifully preserved. This is due to high mineral content in the soil as well as preservation under sealed clay that prevented bacterial decomposition. (Anaerobic, sealed clay layers are also responsible for the preservation of woolen textiles, leather, hair, and other stuff that you would normally expect to rot away).

Some of what I do every year is pretty pedantic. When the bones come up to the lab from the excavation, they are still coated with sticky black mud. This needs to be carefully washed off before anything else can be done. Sometimes (if it’s raining) one or both of the excavation crews help me out with this; other times, I do it myself, gently using a toothbrush over a tub of warm water. So far, since 2002, we’ve processed over 30,000 items this way.

The next task is to get the bones dry. This is not always easy in England, a country with a rainy and cool climate. To speed up drying, we use
electric heaters and blowers, laying the bones out in baker’s pastry trays which stack one on top of the other leaving plenty of airspace inbetween.

After the bones are dry, it’s time to sort them. This is one job that volunteers can’t help me with, because it requires the ability to distinguish, on sight, whether an item is a crushed fragment or something more significant. Smashed sections of rib, crushed vertebrae, and skull and limb bone parts bashed into tiny shards are difficult to identify to species and often redundant as to the information they contain. This material is not cataloged, but context information is carefully preserved and the bones are stored in the original labeled bags.

At this stage I also identify and remove any fragments of pottery, wood, charcoal, snails, oyster-shells, or metal objects such as slag and hand-drawn nails that may have gotten mixed into a bone bag. Excavators do their best on-site to separate these items but sometimes a non-bone looks and feels remarkably similar -- especially when it’s covered with black mud. Excavators consistently do a commendable job, sifting through muddy sediment with their bare fingers. They bring up most bones completely unbroken, many of the most significant no bigger than a paper clip. In 2007, a sharp-eyed excavator handed me a wad of mud that had been compressed between layers of woven floor matting in a village house: it turned out to be the almost complete skeleton of a mouse.
Beginning in 2008, significant efforts were made by Andrew Birley’s excavation crew to collect “quadrat samples” in 1-liter and 4-liter sizes. Beth Greene, a site archaeologist, along with volunteer Kate Young, gently sieved all the samples, a process that recovers small bone. Between them they got the bones of hundreds of rodents, other small mammals, and tiny songbirds: a treasure-trove of biological and environmental information that I shall be privileged to research and report about in detail in the next several years.

Once the potsherds have been sorted to one side, it’s time for numbering, basic curation, and species identification. The first step is to try to get all bones from one context or “digging area” into one tray, and to scan for any broken parts that can be fitted together. Repairs are made with a toluene-based glue that can easily be dissolved with acetone -- just in case the glue needs to be removed to permit future chemical or DNA analysis of the bone.

We don’t get much in the way of articulated remains or whole skeletons at Vindolanda. Most of the bones come from ditches, apparently being butchery waste randomly thrown in, especially at times...
when the garrison had received marching orders and hundreds of men were about to depart. At those times, whole herds of cattle, goats, sheep, and pigs were slaughtered at once and quartered at the joints (the Romans employed no saws for butchering, so there were no T-bone steaks). Meat was stripped from the bones, salted and jerked, or else smoked. Then the bones, dinged and nicked with the telltale marks of scrapers, skinning knives, and razor-sharp cleavers, were tossed into any handy ditch or pit. And yes, this must have created quite a stench, for the offal (which rots away after burial) was thrown in too. Perhaps this was as much a rearguard action as it was necessary and convenient for a garrison about to march: the Romans didn’t want anyone occupying their fort when they were not there to guard it.

Once in a while, though -- where circumstances are right -- we do get articulated or “associated” skeletal parts -- like the mouse in the matting. In my time at Vindolanda, part of a cow’s backbone and a nearly complete goat skeleton have been recovered from shallow drainways at the side of ancient road surfaces, in both cases inside of the fort. There has also been a nearly-complete dog skeleton -- it’s on exhibit inside the Vindolanda museum -- a small breed with bandy-legs and a long back, like a Wiener dog -- someone’s pet (or else a sacrificial victim) that was buried in a shallow pit.
There is another fairly complete dog skeleton too, along with two suckling piglets, which came from the 2008 excavations under the fort granary. A sick dog might have crawled under the granary, there to curl up and die. Since there was no water flow and no movement under there to disturb the remains, the dog’s bones stayed close together for 2,000 years. The piglets are missing the belly-half of their ribcages as well as most of their skulls, and were almost certainly smoked delicacies that once were hung on pegs inside the granary. When they got past their “use by” date, some lazy soldier, not wanting to walk all the way to the garbage dump, simply chucked them down through a break in the stone floor.

Associated remains demand much more of my time, because the skeleton of every mammal contains over 200 separate bones. If the animal is a juvenile, like the piglets, there will be even more pieces because the vertebral centra

Above: A view looking down upon the lower incisors of a horse from the Severan ditch deposit, dated to between A.D. 110 and 117. The horizontal scratches on the teeth, and the groove worn in the tooth battery, indicate that this animal was a “rail rubber”. This is interesting in itself, but more significantly it proves that the Romans kept horses in stalls or corrals that had wooden rails. Left: One of the many skulls recovered of the pack-hunting type of dog.
will not yet have fused to the arches, and the ends of the long bones will be separate from the shafts. All these parts have to be matched and glued together. If remains of two skeletons are somewhat mixed -- as was the case with the piglets -- they have to be disentangled. It’s worth it to put in the time, though, because someday we might be able to actually mount these skeletons for display in the museum, something that helps visitors visualize the animals much better.

After all parts have been matched, then it’s time to apply a catalog patch to each bone. This is done with a small brush and high-adhesion white Acrylic paint. A patch about an inch square is applied to larger bones, smaller on smaller bones. The patch provides an unmissable area where I will inscribe the context code that tells exactly where the bone was found, as well as a unique serial catalog number. It takes about two days for the paint-patch to dry, and then I assign and apply the number using a pen with intense black, permanent, archival-quality ink. Choice of pen and paint is important because the number absolutely must not smudge, fade, or come off under conditions of longterm storage and study.

As I assign the numbers, I keep a handwritten, running log. Entries in the log look like this:


There is a great deal of information in this single line of shorthand. “V08-39A” is the context code. “V” stands for Vindolanda; “08” means material collected during the 2008 digging season. “39A” is the particular context, in this case a ditch outside the regimental granary. “12189” is the unique catalog number, the most fundamental and permanent identifying characteristic that I can give to any item in the collection, the number by which it can always be looked up in the written catalog.

To continue the description, Bos taurus is the scientific name of domestic cattle. “Jaw ramus rt” means the right half of a mandible or lower jaw, a basic physical description of the item. “c alv. P/3” means “with alveolus for P/3”, in other words there is a socket for the third lower premolar tooth but the tooth itself is missing. “....and P/4-M/3” indicates the teeth that are present -- most of the cheek teeth, from the fourth premolar through the third molar. “5T” confirms that there was no alveolus for a second premolar tooth, so that the animal had only five cheek teeth in life (some Vindolanda cattle did develop the lower P/2, and hence had six cheek teeth).

Here’s another example from the actual log with other important observations:

V08-40A. 12206. Bos taurus. Tibia, left; px end split lengthwise, juv; BM, GN

The tibia is the gaskin or shank-bone. Rarely do we get whole cattle humeri, femurs, or tibias; they were almost always smashed to recover the tasty and nutritious marrow from within. This specimen is typical: just a piece of the proximal end (“px”) of a left tibia, split lengthwise. From the appearance of the bone and the fact that the proximal articular surface is missing, I know that the animal died before it was three years old (“juv” stands for “juvenile”). Further, there are evident chop-marks (BM for “butcher mark”), and some rounded puncture-like marks, or surface grooves caused by dog teeth (GN for “gnawed”).

At a later stage, when the whole season’s collection has been cataloged, I transcribe these notes into the computer, and then we make multiple backup copies both on paper and CD-Rom. To lose either the handwritten log or the digital catalog would be a disaster which we take positive steps to avoid. After
transcription the original handwritten logs are kept in a firesafe.

Once a bone has a number and context code affixed, it can be sorted to species. All cataloged cattle bones collected in a given year, from whatever context, are stored together; ditto for horse, sheep and goat, pig, dog, and all the other species. This makes study of the bones, which usually involves photography and measurement, easier for researchers. It also makes maximum use of the storage space we have available at the Vindolanda museum.

Before I store bones away, though, I survey them for their likely importance to studies I have in mind, rarity or unusualness, completeness, or any other outstanding characteristic. I then photograph these items for the record. Sometimes I also photograph an entire series of bones from a given context -- a process that can run into thousands of individual images. Photographs are mandatory also for those specimens -- such as the bones of rodents or small birds -- that are too tiny for a number to be written directly on the bone. In these cases, the photograph provides a means of positive identification should a specimen become separated from the paper label that carries the catalog number.

Research: It is a real privilege for me to work at Vindolanda. There is no better way to begin perceiving the significance of bones -- the power they have to tell the story of animal life and of peoples’ interactions with animals -- than by looking at them thoroughly enough to describe and catalog 15,000 of them. The members of the Vindolanda Trust have looked to me to provide summaries of what has been discovered, and they have backed up their commitment by providing generous amounts of space for research papers in bi-annual reports. Beginning in 2004, I have written four reports on the Vindolanda bones:

- A substantial 80-page summary, complete with photography in color, on the huge and beautifully preserved collection of bones of Severan age (A.D. 111-117) that were excavated from a section of the “moat” or defensive ditch surrounding the fort. This report (publ. 2004) contains the greatest diversity of animals and includes wild species. It’s a good report to have because written in an instructive style from which you can learn exactly how different bones are told apart.
A brief report (publ. 2006) on finds of mammal bones covering all ages and stratigraphic levels at Vindolanda, giving relative frequencies of different species in different contexts (i.e. ditches vs. rooms in workshops or houses).

An interesting sidelight on the birds known from Vindolanda (publ. 2006), again complete with color photography. This report is most interesting because it ties together a request made by Flavius Cerialis in one of the Tablets (“friend, if you love me, send me some swanning nets”) with a swan bone coming from the same stratigraphic layer. This is one of the few times in the history of archaeology where actual artifacts directly confirm written records from the same site.

A fact-filled report (publ. 2008) comparing mammal and bird remains from the area of the temple complex (“Area B”) with those coming from fort and village areas (“Area A”) at Vindolanda.

You can obtain copies of any of the Vindolanda research reports by going to www.vindolanda.com.

Stories Told by Bones: When you consider how many people lived at Vindolanda and for how long, the abundance of animal bones cannot be surprising, for the Romans utilized all the common species from which we get meat, milk, eggs, leather, and sinew. At any one time, there were probably upwards of 500 people -- perhaps sometimes as many as 2,000 people -- living at Vindolanda, and to an American it must be significant that they sat up there on that hill for 400 years: more than a century longer than the whole history of the United States.

One of the most basic and important research priorities in a collection such as this is to count the bones. The object is to achieve an idea of the minimum number of individuals that were present -- how many “head”. Obviously, a horse only has four legs. I therefore count the number of scapulas, humeri, femurs, and other limb bones. If I have five fore cannon bones from a given excavation site, I know that there must be at least three horses present. If all five of the cannon bones pertain to the left side, I know that there cannot have been less than five horses. This is why it’s important to always note down in the log whether a bone pertains to the left or right side of the animal in question. Careful calculation of minimum numbers of cattle in each successive time layer can shed light on the number of soldiers that were being fed.

If you’re wanting a lesson in how to live “green”, you could hardly get better instruction than from the Romans, for the residents of Vindolanda wasted nothing. Much of the fun for me comes when I work like a TV “CSI” forensic expert: noticing little details often gives big results. For example, there are the tiny scratches that cover the surface of many cattle-bones: marks made by small knives used to scrape off every last vestige of meat.

Anomalously, we have far more cattle scapulas than we should have for the number of skulls. The blades of almost all the scapulas have a hole in them: a hole made when the bone, butchered off at the shoulder joint, was lagged onto an iron hook, hide-side outward. The iron hook was in a smokehouse, perhaps in Denmark, Scotland, or southern England: the quartermasters of the Roman army had a long economic reach. So did their supply-lines: wagonloads of smoked and jerked beef must have come in to the fort weekly, a handy and reliable way to get meat into the stomachs of hungry soldiers in an age before refrigeration.
Another type of mark on Vindolanda bone comes in the form of square holes or slits cut neatly -- in fact punched -- into the skulls of cattle (though there is also a pony pelvis that was treated the same way). The *ballista* -- an iron bullet with pyramidal tip -- of a Roman crossbow exactly fits the square holes, and iron-tipped Roman javelin heads fit the slits. The undersides of the skulls were carved out to make them fit tight when jammed onto the end of a pole rammed into the ground at an angle: it isn’t hard to imagine footsoldiers and cavalry taking practice aim at targets like these.

Besides the common domestic animals, Vindolanda excavators bring up quite a number of wild species. Two kinds of deer -- the big “red deer” that we on this side of the Atlantic know as elk, and the much smaller Roe deer, were hunted for meat, antler, and hide. Their remains are constantly present, though at low frequency, in all stratigraphic levels and time periods. Antler, harder and denser than bone and capable of taking an attractive polish, was cut into sections with fine saws to make game counters (the Romans were fond of betting games), or turned on foot-powered lathes to make knife handles.

The British Isles during the time of the Roman Empire contained no rabbits, but the hare -- a taller and leggier animal similar to our desert jackrabbit -- is native and was hunted by boys with bows and arrows or with snares. Foraging for hares took children and adults up bracken-covered slopes which also provided cover for grouse and plovers. They also foraged the shores of nearby lakes which harbored thousands of wild ducks and geese. The Vindolanda Tablets tell us in addition that Flavius Cerialis enjoyed birding with throwing-nets, taking not only the common species but also cranes and swans. Cerialis often had to entertain important guests, even including the Governor of Britain, and exotic fowl were considered a special delicacy.

Traps also brought in some fur-bearing species: the wild cat -- ancestor of the domestic tabby -- as well as badger, fox, marten, and just possibly wolf. Bold hunts against the fiercer sorts of prey were the purview of noblemen such as Flavius Cerialis and experienced hunters drawn from the ranks of the

Right: These horse vertebrae show much of interest to a forensic investigator. First, they are highly pathological: the pair is fused together, with long projections of bone abnormally growing down from the underside of the centra. The animal probably could not bend either left or right, and might have had a rather grumpy outlook from pain in its back. Romans would slaughter horses when they became too unsound to work. The second aspect to note is the deep gashes upon the bones. These are “butcher marks” made when the carcass was cut up. Smaller scrape-marks that only show up under magnification indicate that the meat was stripped off, probably to feed to dogs.
army. Upon horseback, accompanied by packs of hounds, the Roman retinue would go after not only deer but wild boar.

As to the packs of hunting-dogs: in fact, the Romans knew several different breeds of dog. There was a tall, fast and powerful breed, somewhat like a Wolfhound but with smooth hair, which was used for coursing after deer and boar. There was a muscular and large-sized dog like a Mastiff; likely a pair of these were chained in front of Regimental Headquarters, to guard the treasury housed in a sunken crypt below the floor. The pack-hunting breed has left the most numerous remains; similar to a modern British foxhound, it had smooth hair and a rather Beagleish form. Finally there were one or two different kinds of “ratters”: long-bodied and bandy-legged, and probably rough-haired like a modern Scotch Terrier. Some folks may have kept smaller individuals as housepets. We know about the color and hair-type of these dogs from numerous Roman sculptures, statuettes, paintings, and mosaics.

There must, however, also have been many mutts at Vindolanda, especially in the village. My studies have led me to conclude that any dog with chutzpah about him would never go hungry at that site. In 2008, excavation began below the regimental granary, revealing hundreds of bones of rodents: just what you’d expect, really, given the location. Under the granary floor and in the cross-ventilation flues there were the nests of many swallows. Below their mud-plaster nests, down in the damp earth, croaked hundreds of toads. Up in the eaves and between the upper-story ventilation louvers, bats and hunting owls waited to fly out at dusk, just as they do today.

Dogs were also likely fed horse meat, as equine vertebrae and limb bones bearing butcher-marks show. Many Romans did not harbor the same humane sentiments or special fondness for horses that you or I
might display, and some of them apparently would work a horse, mule, or donkey until it became so crippled that no more work could be extracted from it. In the collection are examples of vertebrae so arthritic that they are fused, and pastern bones with evidence of serious abscessing still active at the moment of death: these animals must have been very lame. They were slaughtered and the carcass chopped into pieces, some parts to go for dogmeat, the hide sent to the tanner’s, the hindlimbs sent to the bowmaker’s shop where the valuable long sinews would be stripped out.

An exception to this pattern is the “commandant’s horse” whose skull was found in the commanding officer’s residence, a most unusual place to find horse bodyparts. My suspicion is that this animal was a prize favorite mount of Flavius Cerlialis, a stallion of part-Oriental breeding that had possibly been given to him by the Governor of Britain. Perhaps when the horse died, the Commandant kept the mum-mified head as a memento or trophy. Whatever the skull’s true history, it is one of the most important of all the Vindolanda bones, for it demonstrates decisively that even in the far western reaches of the Roman Empire, crossbreeding with Oriental sires was taking place in very early times. You can view this skull, and other horse skulls, on exhibit in the Vindolanda and R.A.M. museums.

One of the greater mysteries pertaining to bone studies at Vindolanda is that, through most of its history, the garrison posted there included cavalry. Estimates vary somewhat, but there could not have been less than a couple of hundred head of horses, asses, and mules on site at all times -- probably more like an average of 500 head. That’s a big herd, yet we have relatively few horse bones from Vindolanda. This may perhaps be because we haven’t yet hit upon the horse burial-ground -- if one existed. This could not have been located inside the fort, nor would it be likely in the village or temple area. But we have room to move: excavation in future years is planned for previously unexplored areas west of the temple complex and across the Stanegate Road, the Roman-era highway that once ran beneath the fort’s main gate. What we will find in coming years no one can be certain of, but I do know one thing: I intend to be around to help nail down the identities, the numbers, the age and season of slaughter, the probable cause of death and the fascinating stories of the animals of Vindolanda.

If you’re planning a European vacation, the bottom line is that Vindolanda is a little-known must-see: one of the world’s greatest Roman-era archaeological sites, it is also one of the most visitor-friendly. All the information and details you’ll need can be found at www.vindolanda.com. Happy journeys.

Deb Bennett, Ph.D., from the Equine Studies Institute offices
Livingston, California -- October, 2008

TURN TO NEXT PAGE FOR PICTORIAL BOOK LIST
Above: Here are a couple of well-written books of general interest. Anthony Birley is an expert on the Roman army as well as the Vindolanda Tablets; Alistair Moffat stars in a popular television series and is a marvelous writer. Both these books are good reads.

Left: Another in the series of research monographs that have come out every other year since the 1980’s. These are of interest if you want the technical details.
Left: The Osprey men-at-arms series covers just about every conceivable aspect of Roman army life and works. Each volume covers a single topic, and all contain photos of artifacts as well as excellent, historically accurate color visualizations.

Below: Quality children’s volumes can be just as interesting to an adult reader. The visualizations contain an abundance of meticulous detail.
The Vindolanda and R.A.M. bookstores carry volumes on all aspects, including travel guides and books about life in the wider Roman world.
Two of the most readable and thoroughly enjoyable books on Vindolanda have been written by the discoverer of the Tablets, Dr. Robin Birley. At under 100 pages each, they summarize the basic array of artifacts, facts about the Tablets, and the history of Chesterholm and the excavations.
My personal collection contains a number of volumes that touch on how animals were used during Roman times. A general understanding of the Roman army is helpful.
Of course, I also collect books that deal with horses and the cavalry. Most “Roman” cavalry fighters were not from Italy, but were instead drawn from other provinces of the Empire, especially Belgium, northern Spain, the Balkans, and Turkey.
These three volumes are quite scholarly works concerning Roman cavalry. They contain photos of artifacts and meticulously researched text.
No question -- when the Roman cavalry went to war against its enemies, there was some blood and gore. The Osprey series is simply excellent for anyone who wants to see artifacts as well as realistic re-creations and visualizations.

SPECIAL NOTE: If you are a teacher, Vindolanda also provides pre-prepared learning packets for several different age groups. These can be obtained on-site or through the mail.

Vindolanda offers daily tours for school groups as well as for groups of adult visitors. Tours are free and are conducted by one of the site archaeologists.

For more information, go to www.vindolanda.com.